

February 2023



Lower Murray Water: Review of expenditure forecasts

2023 Water Price Review

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— Table of Contents

Executive Summary.....	vi
Lower Murray Water’s urban services	vi
Lower Murray Water’s rural water services	viii
1 INTRODUCTION	10
1.1 Purpose of this report	10
1.2 Context and challenges facing Victorian water businesses	10
1.3 Water industry regulatory framework.....	12
1.4 Methodology and approach.....	14
1.5 Structure of this report	15
2 SUMMARY OF URBAN SERVICES EXPENDITURE PROPOSAL	17
2.1 Cost allocation between urban and rural services.....	17
2.2 Forecast controllable operating expenditure	17
2.3 Forecast capital expenditure.....	19
3 URBAN SERVICES OPERATING EXPENDITURE ASSESSMENT	21
3.1 Overview of assessment approach	21
3.2 Key operating expenditure drivers across water businesses.....	22
3.3 Corporate cost allocation.....	25
3.4 Assessment of the baseline.....	26
3.5 Assessment of the step changes	33
3.6 Forecast growth and efficiency factors.....	36
3.7 Summary of urban services operating expenditure assessment.....	36
4 URBAN SERVICES CAPITAL EXPENDITURE ASSESSMENT	38
4.1 Overview of assessment approach	38
4.2 Assessment of overall capital program.....	39
4.3 Assessment of major projects and major programs	42
4.4 Summary of urban services capital expenditure assessment.....	47
5 SUMMARY OF RURAL SERVICES EXPENDITURE PROPOSAL	49

5.1	Forecast controllable operating expenditure	49
5.2	Forecast capital expenditure.....	50
6	RURAL SERVICES OPERATING EXPENDITURE ASSESSMENT	52
6.1	Overview of assessment approach	52
6.2	Cost allocation between urban and rural services.....	52
6.3	Assessment of the baseline.....	52
6.4	Assessment of the step changes	53
6.5	Summary of rural services operating expenditure assessment.....	54
7	RURAL SERVICES CAPITAL EXPENDITURE ASSESSMENT	55
7.1	Overview of assessment approach	55
7.2	Assessment of overall capital program.....	55
7.3	Assessment of major projects and major programs.....	57
7.4	Summary of rural services capital expenditure assessment.....	59
	APPENDIX A: CROSS-INDUSTRY OPERATING EXPENDITURE ISSUES	60
	Overview	60
	Energy expenditure.....	60
	IT expenditure.....	65
	Labour costs.....	69

Glossary

Term	Definition
BTP	Business Transformation Program
DEECA	Department of Energy, Environment and Climate Act, formerly DELWP
DELWP	Department of Environment, Land, Water and Planning
EA	Enterprise Agreement
ESC	Essential Services Commission
FTE	Full time equivalent
FTI Consulting	FTI Consulting (Australia) Pty Ltd
GL	Gigalitre
IPD	Integrated Planning and Delivery
kWh	Kilowatt
ML	Megalitre
PEER	Public Entity Executive Remuneration
PREMO	Performance, Risk, Engagement, Management and Outcome
PS4	Price Submission for the fourth regulatory period (2017-18 to 2022-23)
PS5	Price Submission for the fifth regulatory period (2023-24 to 2027-28)
PV	Photovoltaic
RBA	Reserve Bank of Australia
SaaS	Software as a Service
Schneider	Schneider Electric Energy and Sustainability Services
SGC	Superannuation Guarantee Charge
UV	ultraviolet
WIRO	Water Industry Regulatory Order
WPI	Wage Price Index
WSAA	Water Services Association of Australia

Executive Summary

FTI Consulting has been engaged by the Essential Services Commission (the Commission) to undertake an independent expert review of 14 Victorian water businesses' forecast (controllable) operating and capital expenditure for the 1 July 2023 to 30 June 2028 (PS5) regulatory period.

The Commission is required to assess the water businesses' proposals against a legal framework set out in the *Water Industry Regulatory Order 2014* and the Commission's PREMO pricing framework.

Lower Murray Water provides both rural water services and urban water and sewerage services to its customers. We have assessed Lower Murray Water's forecast controllable operating expenditure and capital expenditure for both its rural and urban water services based on the guidelines contained in the Commission's *2023 Water Price Review: Guidance Paper*.

This report sets out our views as to whether Lower Murray Water's forecasts of capital expenditure and controllable operating expenditure over the regulatory period for its urban and rural services can be reasonably assessed to be prudent and efficient.

Lower Murray Water's urban services

Forecast operating expenditure

Lower Murray Water has updated its approach to allocating direct and indirect costs between its urban and rural services. While it has continued to apply the methodology outlined in its Corporate Allocation Framework, it has updated the key metrics (or cost allocators) for current data. We are satisfied that these updated cost allocators are reasonable.

For urban services, Lower Murray Water has proposed an average net increase in controllable operating expenditure (growth less efficiency factor) of zero per cent per year for the PS5 regulatory period. When comparing this net result against other water businesses, Lower Murray Water is sixth out of 13 urban water businesses subject to this review.

Lower Murray Water's forecast operating expenditure reflects:

- baseline 2021-22 expenditure of \$27.21 million, which is \$4.5 million (or 19.6 per cent) more than the benchmark allowance approved by the Commission in the previous price review
- total step changes to the baseline that net off to zero across the regulatory period

- an average growth factor in operating expenditure of 1.1 per cent per year and an efficiency factor of 1.1 per cent per year.

Based on Lower Murray Water’s PS5 submission, discussions with the business and further information provided, we have formed the view that the Lower Murray Water’s adjusted operating expenditure in 2021-22 for urban services is consistent with a prudent business operating efficiently and does not require any further adjustments.

The principal reason for Lower Murray Water’s forecast increase in operating expenditure between the PS4 and PS5 regulatory periods is an increase in 2021-22 baseline expenditure above the benchmark allowance approved by the Commission. We are satisfied that the key drivers of this additional expenditure appear reasonable, and the baseline does not appear to include any items that are non-recurring.

However, we have proposed a small adjustment to remove \$0.2 million for additional water reticulation and distribution costs, to align with Lower Murray Water’s revised estimate of these costs going forward. This adjustment will reduce adjusted baseline controllable operating expenditure by \$0.2 million.

While Lower Murray Water is proposing net step changes of zero, we are satisfied that the two elements that reflect increases in costs are reasonable and have been substantiated. Lower Murray Water has also proposed a net growth factor of zero per cent per year.

Recommended adjustments – controllable operating expenditure (\$ 1 January 2023, millions)

	2023-24	2024-25	2025-26	2026-27	2027-28
Forecast controllable operating expenditure	26.96	27.11	27.22	27.69	27.12
Recommended adjustments - baseline					
Water reticulation and distribution	0.20	0.20	0.20	0.20	0.20
Adjusted total operating expenditure	26.76	26.91	27.02	27.49	26.92

Forecast capital expenditure

Lower Murray Water has forecast capital expenditure of \$98.6 million for its urban services for the PS5 regulatory period. This is:

- 27 per cent more than its actual capital expenditure (including 2022-23 forecast) over the PS4 regulatory period

- 17 per cent less than the forecast capital expenditure outlook for the PS5 regulatory period that it included in its PS4 submission.

The key contributors to Lower Murray Water's higher forecast capital expenditure for the PS5 regulatory period, compared to the PS4 period actual expenditure are bulk water entitlement purchase costs (\$8 million) and the Red Cliffs improvements to water pressure (\$9.4 million). The submission identifies a modest increase in renewals and replacement investment. We have assessed the total capital expenditure of \$98.6 million, less the UV treatment project expenditure of \$3.8 million, because this expenditure has already been incurred by Lower Murray Water in the PS4 regulatory period.

Lower Murray Water's pricing submission provides a breakdown of its forecast capital expenditure for the PS5 regulatory period, with further information provided as required to support this review. This information provides a reasonable level of confidence that:

- the proposed capital program is consistent with the actions of a prudent service provider acting efficiently
- the forecast capital expenditure for urban services is justified, robust and is capable of being delivered by Lower Murray Water in the PS5 regulatory period.

As a result, we have not recommended any adjustments to Lower Murray Water's forecast capital expenditure for urban services for the PS5 regulatory period.

Lower Murray Water's rural water services

Forecast operating expenditure

As noted above, we are satisfied that Lower Murray Water's updated cost allocators used to allocate indirect costs between its urban and rural services are reasonable.

For rural services, Lower Murray Water has proposed an average net increase in controllable operating expenditure of zero per cent per year for the regulatory period.

Lower Murray Water's forecast operating expenditure reflects:

- baseline 2021-22 expenditure of \$17.51 million, which is \$0.14 million (or 0.8 per cent) below the benchmark allowance approved by the Commission in the previous price review
- total step changes to the baseline of -\$1.8 million across the regulatory period.

We have concluded that this proposal is consistent with a prudent business operating efficiently and have not recommended any adjustments to its controllable operating expenditure.

Forecast capital expenditure

Lower Murray Water has forecast capital expenditure of \$50.4 million for its rural services for the PS5 regulatory period. This is:

- 9 per cent more than its actual capital expenditure (including 2022-23 forecast) over the PS4 regulatory period
- 79 per cent more than the forecast capital expenditure outlook for the PS5 regulatory period that it included in its PS4 submission.

The key contributors to Lower Murray Water's higher forecast capital expenditure for the PS5 regulatory period compared to the PS4 period actual expenditure are additional costs for Millewa river pump station project (\$7 million) and the Meter replacement program (\$5.8 million).

Lower Murray Water has included \$7 million for the Millewa river pump station project, which was incurred in the PS4 regulatory period, in the PS5 period forecast for 2023-24. This \$7 million project expenditure has associated government funding of \$3.9 million (included as customer contributions in the PS5 model).

We have assessed the total capital expenditure of \$50.4 million, less the Millewa river pump station expenditure of \$7 million, because this expenditure has already been incurred by Lower Murray Water in the PS4 regulatory period.

Lower Murray Water's PS5 submission provides a breakdown of its forecast capital expenditure for rural services for the PS5 regulatory period, and it provided us with further information as requested to support our review. The information provides a reasonable level of confidence that:

- the proposed capital expenditure program for rural services is consistent with the actions of a prudent service provider acting efficiently
- the forecast capital expenditure for rural services is justified, robust and is capable of being delivered by Lower Murray Water in the PS5 regulatory period.

As a result, we have not recommended any adjustments to Lower Murray Water's forecast capital expenditure for the PS5 regulatory period.

1 INTRODUCTION

1.1 Purpose of this report

The Essential Services Commission (the Commission) is reviewing submissions from 14 Victorian water businesses setting out their proposed prices and key service outcomes to apply to water and sewerage services commencing on 1 July 2023 through to 30 June 2028 (referred to in this report as the PS5 regulatory period).¹ Each of the Victorian water businesses, including Lower Murray Water, were required to submit their proposals to the Commission for assessment by 30 September 2022.

Lower Murray Water provides both rural water services and urban water and sewerage services to its customers.

FTI Consulting has been engaged to undertake an independent expert review of the water businesses' operating and capital expenditure forecasts for the PS5 regulatory period. The scope of our review of operating expenditure is limited to controllable operating expenditure.

This report sets out our independent expert view of the prudence and efficiency of Lower Murray Water's capital and operating expenditure forecasts for the PS5 regulatory period for both its rural water services and urban water and sewerage services. Our assessment is based on the guidelines contained in the Commission's *2023 Water Price Review: Guidance Paper*.

1.2 Context and challenges facing Victorian water businesses

The environment faced by most Victorian water business over the last few years has been significantly more challenging than envisaged in 2018 when the Commission approved the expenditure forecasts used to set water prices for the 1 July 2018 to 30 June 2023 (PS4) regulatory period.

The COVID-19 pandemic has been one of the unforeseen events that has impacted the Victorian water businesses' expenditure in several ways, including:

- requiring additional water and wastewater monitoring and treatment

¹ This includes 13 water businesses providing urban water and sewerage services include Barwon Water, Central Highlands Water, Coliban Water, East Gippsland Water, Gippsland Water, Goulburn Valley Water, GWMWater, Lower Murray Water, South East Water, South Gippsland Water, Wannon Water, Westernport Water and Yarra Valley Water and two businesses providing rural services including Lower Murray Water and Southern Rural Water.

- increasing customer hardship due to cost-of-living pressures
- disrupting business operations, including the ability to carry out maintenance activities and higher rates of staff absenteeism
- changing work practices, including social distancing and hygiene requirements as well as transitioning to enable staff to work from home
- disrupting supply chains, putting pressure on the availability and cost of inputs
- increasing migration from Melbourne to regional areas.²

These impacts have affected each water business's actual and forecast expenditure in different ways. Some water businesses have faced new costs or cost pressures, while others have enjoyed cost savings.

The effects of the COVID-19 pandemic continue to be felt nearly three years later. Some of these impacts are moderating as Victoria (and the rest of the country) adapts to a new phase of living with the pandemic. However, there is the potential for other more permanent changes, including changes to work practices and greater migration of people from major cities to regional areas. At the time of this review, the longer-term implications remain unclear.

There are other events and changes that were unforeseen (or at least unable to be fully anticipated) as part of the Commission's previous water price review. These include:

- the continued impacts of climate change on the frequency and severity of major weather events, including drought, bushfires and floods
- the continued evolution in climate change and environmental policy, including emission reduction strategies and targets, and associated compliance and reporting obligations
- a continued hardening of the insurance market, which also (at least partly) reflects the impacts of major climate-related events domestically and globally
- a ramping up of the need to do more to mitigate cyber security risks, including mandated obligations.

These issues and challenges do not imply or support a premise that:

- water businesses should continue to increase their operating and capital expenditure, and hence water and sewerage prices
- there should be lower expectations in terms of the need to drive efficiency savings in the longer term for the benefit of customers

² For example, refer: <https://population.gov.au/sites/population.gov.au/files/2021-09/the-impacts-of-covid-on-migration-between-cities-and-regions.pdf>, accessed 1 December 2022.

- businesses should avoid responsibility for managing the risk of cost increases and/or passing more of those risks on to customers.

It further underlines the importance of scrutinising increases in expenditure, as well as proposed step changes, to ensure that they remain consistent with the actions of a prudent business operating efficiently, including in how it responds to the uncertainties and challenges in its operating environment. It also does not alter the standards that should be reasonably expected of businesses in supporting and justifying any increases in expenditure for the next regulatory period, including being able to provide adequate supporting documentation (such as Board-approved policies or strategies and business cases).

1.3 Water industry regulatory framework

The water businesses' proposals are being assessed against a legal framework set out in the *Water Industry Regulatory Order 2014* (WIRO)³ and the Commission's PREMO framework for approving prices.⁴

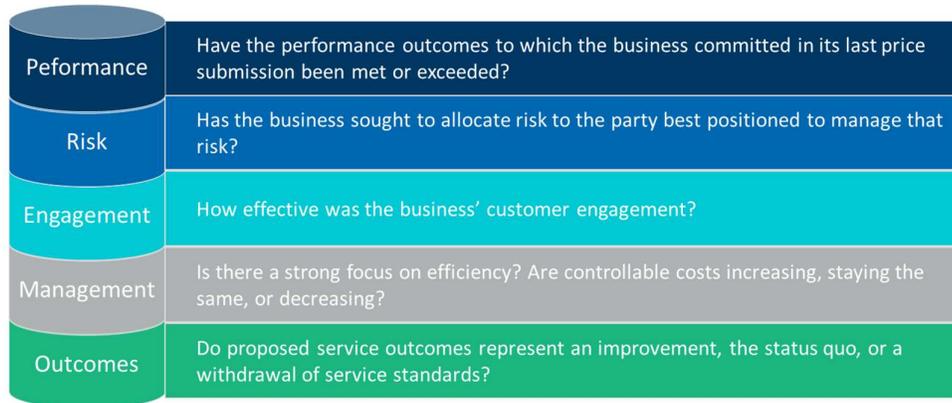
The Commission's regulatory framework places an emphasis on efficient delivery of services. Assessing the prudence and efficiency of a water business's expenditure forecasts is fundamental to achieving this objective.

In 2018, the Commission introduced a new approach called PREMO to regulate the prices charged to Victorian water businesses. As Figure 1.1 describes, the PREMO approach contains both new and conventional elements related to price, risk, engagement, management and outcomes. PREMO provides water businesses with incentives to put forward their best offer to customers and deliver the outcomes its customers value most and to deliver these as efficiently as possible.

³ The Water Industry Regulatory Order 2014 (WIRO) sits within the broader context of the *Water Industry Act 1994* (Vic) and the *Essential Services Commission Act 2001* (Vic).

⁴ Essential Services Commission 2016, *Water Pricing Framework and Approach: Implementing PREMO from 2018*, October.

Figure 1.1: The Commission’s PREMO framework



More conventional elements of PREMO include the retention of the building block approach, which provides reasonable certainty that prudent and efficient costs can be recovered. This includes an expenditure review to determine whether a water business’s proposed capital and operating expenditure forecasts are consistent with the requirements of the regulatory framework.

Under the PREMO framework, each submission is expected to reflect the water business’s best offer to its customer base. Submissions may be fast tracked through the assessment process based on several factors. Some water business proposals may require a more detailed review of their proposed expenditure while others may only require a review of some elements of their proposed expenditure (for example, specific items where expenditure is increasing).

The *2023 Water Price Review: Guidance Paper* (the Guidance Paper) explains the Commission’s methodology and approach to assessing water businesses’ price submissions and making a price determination and sets out the information each business is required to provide in its price submission.⁵ The Guidance Paper also identifies the governing criteria for each component of the building block methodology, including forecast operating and capital expenditure.

This review is the second review under PREMO for these businesses. The Commission also expects price submissions to demonstrate how water businesses are building on their previous proposals to deliver value to their customers.

⁵ Essential Services Commission 2021, 2023 Water Price Review: Guidance paper, 26 October.

1.4 Methodology and approach

The scope of our assessments is limited to examining water business's forecast controllable operating expenditure and capital expenditure over the PS5 regulatory period. It does not include examining decisions about whether to fast track a water business's PS5 submission, nor does it involve assessing other elements of the PREMO framework such as past performance or engagement.

Our methodology for assessing Lower Murray Water's capital and operating expenditure forecasts for the next regulatory period is consistent with the Commission's Guidance Paper. In summary, the scope of our review includes:

- for forecast operating expenditure, our assessment focuses on controllable expenditure only. We have assessed proposals using the base-step-trend approach as set out in the Commission's Guidance Paper and is consistent with the basis on which each water business has submitted information as part of their price review model templates
- for forecast capital expenditure, our assessment focuses on the top 10 major projects and major capital expenditure programs that comprise a significant proportion of the water business's total capital expenditure forecast.

Further detail about our assessment framework as it has been applied is set out in Section 3 (Operating expenditure assessment) and Section 4 (Capital expenditure assessment).

Our process has involved several steps:

- an initial review of PS5 price submissions, financial model templates and associated documentation
- comparison of each of the water business's proposed capital and operating expenditure proposals, including assumptions adopted in relation to growth trends, efficiency factors, and comparison of actual and proposed expenditure
- a Stage 1 (preliminary) assessment workshop undertaken with Commission staff identifying the key issues to be explored in our more detailed review
- visits and/or online discussions with each of the water businesses on key issues related to their proposal
- further review and analysis of further information or explanations provided.

1.5 Structure of this report

The structure of this report is as follows:

- Part 1 relates to Lower Murray Water’s urban water and sewerage services and comprises:
 - Chapter 2 provides a high-level summary of the Lower Murray Water’s expenditure proposal for urban water and sewerage services
 - Chapter 3 sets out our assessment of Lower Murray Water’s operating expenditure proposals for urban water and sewerage services
 - Chapter 4 sets out our assessment of Lower Murray Water’s capital expenditure proposals for urban water and sewerage services
- Part 2 relates to Lower Murray Water’s rural water services and comprises:
 - Chapter 2 provides a high-level summary of the Lower Murray Water’s expenditure proposal for rural water services
 - Chapter 3 sets out our assessment of Lower Murray Water’s operating expenditure proposals for rural water services
 - Chapter 4 sets out our assessment of Lower Murray Water’s capital expenditure proposals for rural water services.

Consistent with the Commission’s guidance paper and the price review model completed by businesses, all forecasts and actuals are expressed in dollars as at 1 January 2023.

PART 1

URBAN WATER AND SEWERAGE SERVICES

2 SUMMARY OF URBAN SERVICES EXPENDITURE PROPOSAL

2.1 Cost allocation between urban and rural services

Lower Murray Water allocates indirect costs between urban and rural services based on its Corporate Allocation Framework. This methodology allocates costs on a causal basis to most shared costs between urban and rural services, between water and sewerage services (within urban services) and between services/districts within rural services.

The allocators applied are:

- Corporate costs, comprising corporate and administration: allocated based on operational asset expense ledger labour and contractor expenditure
- Billing and IT costs, comprising billing and customer services and IT: allocated based on an average of employee FTEs and the number of customer services.

Lower Murray Water has updated its allocators for the PS5 regulatory period, which are as follows.

Table 2.1: Indirect cost allocators – PS5 regulatory period (%)

	Corporate (%)		Billing and IT (%)	
	PS4	PS5	PS4	PS5
Urban	52.5	62.4	90.0	78.0
Rural	47.5	37.6	10.0	22.0

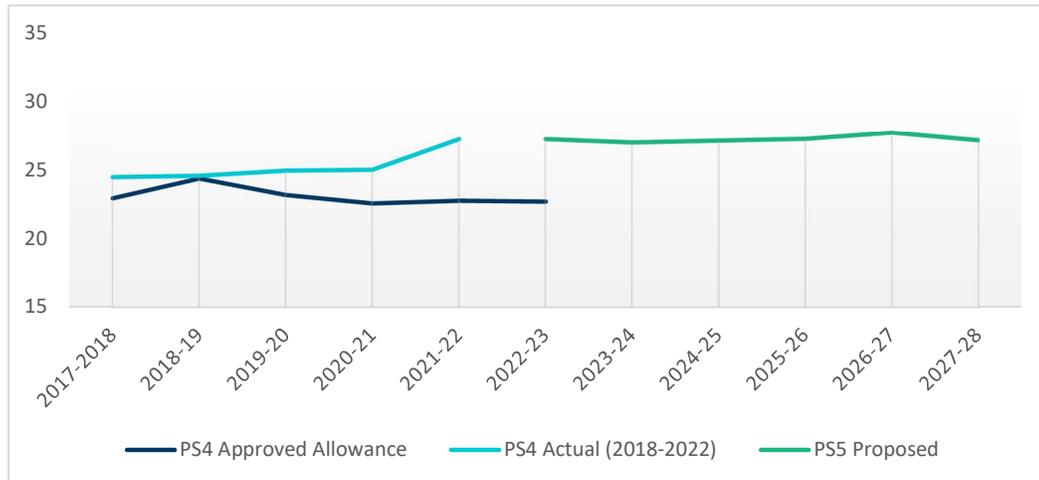
Source: Lower Murray Water 2022, 2023-28 Price Submission, 27 September, p.25.

2.2 Forecast controllable operating expenditure

For the PS4 regulatory period, the Commission approved a total controllable operating expenditure benchmark allowance for Lower Murray Water’s urban services of \$115.4 million (\$ 1 January 2023).

For the first four years of the PS4 regulatory period, Lower Murray Water’s actual operating expenditure for the urban services was \$8.64 million (9.3 per cent) more than the benchmark allowance approved by the Commission for those four years. This is shown in Figure 2.1.

Figure 2.1: Lower Murray Water’s urban actual and forecast controllable operating expenditure by year (\$ 1 January 2023, millions)



Source: Lower Murray Water, Lower Murray Water-U_2023 Price Review Model – 2022-06-30 LOCKED for loading inputs; Lower Murray Water, FD_Lower Murray Water-U_Price Review Model; Essential Services Commission 2018.

Lower Murray Water’s baseline 2021-22 controllable operating expenditure is \$27.21 million, which is \$4.5 million (or 19.6 per cent) above the benchmark allowance approved by the Commission in the last price review.

Lower Murray Water’s proposed total step changes across the PS5 regulatory period net to zero. The proposed increases are:

- \$2.8 million – ICT software
- \$0.5 million – Large-scale Generation Certificates.

These increases are partially offset by reductions of:

- -\$1.14 million – technical services consultants
- -\$1.4 million – electricity costs.

It has applied further balancing adjustments totalling -\$0.8 million, so that the step changes net to zero over the PS5 regulatory period.

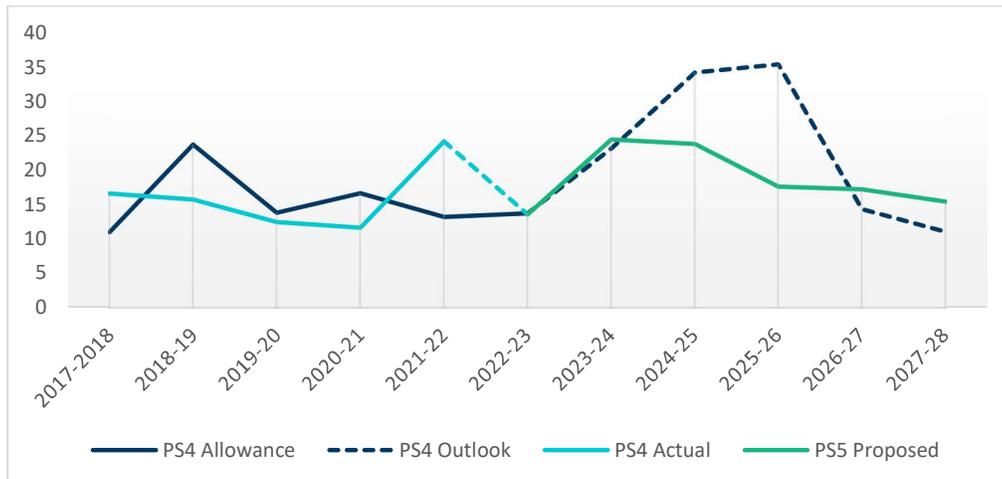
Lower Murray Water has proposed an efficiency factor of 1.1 per cent per year and an average net increase in controllable operating expenditure of zero per cent per year. This implies an average growth factor of 1.1 per cent year.

2.3 Forecast capital expenditure

Lower Murray Water has forecast capital expenditure for its urban services of \$98.6 million for the PS5 regulatory period. As shown in Figure 2.2, this is:

- 27 per cent more than its actual capital expenditure (including 2022-23 forecast) over the PS4 regulatory period
- 17 per cent less than the forecast capital expenditure outlook for the PS5 regulatory period that it included in its PS4 submission.

Figure 2.2: Lower Murray Water's urban actual and forecast urban capital expenditure by year (\$ 1 January 2023, millions)



'PS4 Approved Allowance' relates to the approved capital expenditure allowance for 2017-18 to 2022-23, and the business's 2018 forecast for 2023-24 to 2027-28.

Source: Lower Murray Water, Lower Murray Water-U_2023 Price Review Model – 2022-06-30 LOCKED for loading inputs; Lower Murray Water, FD_Lower Murray Water-U_Price Review Model; Essential Services Commission 2018.

The key, projects and programs defined in the submission include:

- renewals (\$42 million), comprising 43 per cent of the total forecast capital expenditure
- improvements/compliance (\$33.3 million), comprising 34 per cent of the total forecast capital expenditure
- the top 10 major projects (\$35.5 million)
- defined programs and other discrete capital expenditure (\$63.1 million).

Lower Murray Water’s top 10 capital expenditure projects, shown in Table 2.1, account for 36 per cent of its forecast capital expenditure for the PS5 regulatory period.

Table 2.1: Lower Murray Water’s top 10 urban capital expenditure projects (\$ 1 January 2023, millions)

Major capital expenditure project	Forecast expenditure
Red Cliffs - improvements to water pressure	9.4
Water purchase to maintain water security	8.1
Koorlong Wastewater Treatment Plant wet weather storage	6.1
Mildura water mains upgrades	3.8
Asset Management Platform automation	2.7
Customer Customer Relationship Management portal Phase 2	1.8
Koorlong sewer rising main duplication - design	1.5
New Mildura 10 ML Treated Water Storage and Pump Station upgrade (Stage 1) – pump and electrical work	1.1
New Swan Hill water treatment plant (Stage 1) - design	1.0

Source: Lower Murray Water 2022, Lower Murray Water Price Submission 2023-28, 27 September.

Note: Only nine projects were listed in the urban component of Lower Murray Water’s PS5 submission.

3 URBAN SERVICES OPERATING EXPENDITURE ASSESSMENT

3.1 Overview of assessment approach

The Commission's Guidance Paper notes the requirement that forecast operating expenditure is:

... operating expenditure which would be incurred by a prudent service provider acting efficiently to achieve the lowest cost of delivering on service outcomes over the regulatory period, taking into account a long-term planning horizon (prudent and efficient forecast operating expenditure).⁶

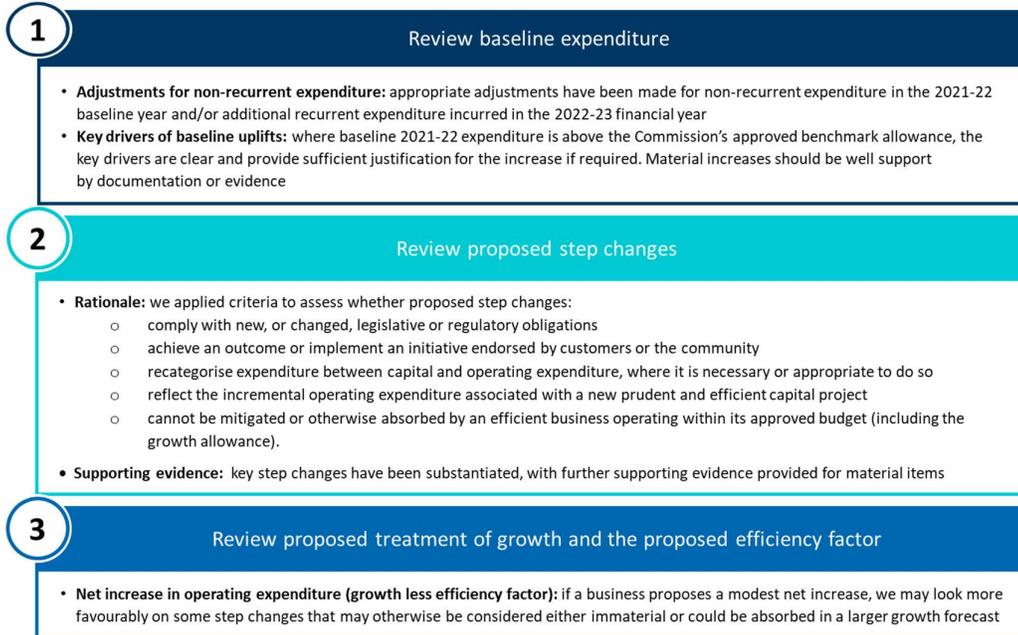
The Commission has asked us to provide an independent expert view on whether Lower Murray Water's forecast controllable operating expenditure is prudent and efficient having regard to the base-step-trend approach and assessment criteria set out in its Guidance Paper.

We have assessed whether forecast controllable operating expenditure is consistent with the actions of a prudent business acting efficiently, including if:

- the established 2021-22 controllable operating expenditure baseline has been appropriately adjusted for any one-off expenditure items and efficiency commitments
- operating costs reflect reasonable cost efficiency/productivity assumptions applied to the 2021-22 baseline operating expenditure, having regard to industry trends
- changes in operating costs are consistent with the timing of major capital projects
- operating costs can fulfil the business's obligations and meet customer service expectations as efficiently as possible
- any forecast divergence from historical trends in operating expenditure can be readily explained, for example, by changes in obligations imposed by government, including technical, regulatory and customer service expectations.

⁶ Essential Services Commission 2021, 2023 Water Price Review: Guidance Paper, 26 October (August 2022 Amendment), p.28.

The key steps in our approach were as follows.



In assessing proposed increases in expenditure, including step changes, we have had regard to each business's approach to allowing for growth and efficiency, and the resulting net growth factor for the PS5 regulatory period. For example, some businesses have proposed more ambitious efficiency targets (resulting in negative net growth in expenditure over the PS5 regulatory period) and/or have sought to recognise economies of scale in allowing for growth.

This is a relevant factor in considering the business's ability to absorb cost increases, including proposed step changes, which has required us to apply judgement in assessing the reasonableness of the business's proposals.

3.2 Key operating expenditure drivers across water businesses

There are several drivers of increased operating expenditure over the current PS4 regulatory period and/or forecast for the PS5 regulatory period that are common across water businesses, as summarised in Table 3.1.

Appendix A presents more detailed analysis and cross-industry metrics for electricity, labour and IT costs, using information submitted by the businesses in their respective Price Review Models. We have not sought to directly benchmark these costs across the water businesses as the requirements of each business vary. However, such comparisons do

further assist in identifying those businesses that might be looking at more material increases in expenditure. It also provides some context to assessing these costs for each business. A summary of the key implications of this analysis for our assessment approach is provided below.

Table 3.1: Common operating expenditure issues

Expenditure category	What we have examined
Electricity	<p>The application of the Schneider Electric (Schneider) electricity price forecasts. Schneider was commissioned by Intelligent Water Networks to prepare an electricity price forecast that could be consistently applied by all of the water businesses.</p> <p>The approach to meeting the Victorian water sector’s commitment to the State Government to source 100 per cent of their energy requirements from renewables by 2025, recognising that each business’s approach will reflect its own circumstances and operating environment (this can also include capital projects).</p>
Labour	<p>The rationale for any material growth in employee numbers.</p> <p>Remuneration increases, having regard to each organisation’s Enterprise Agreement (EA) as well as conditions in labour markets, with several regional businesses citing challenges in attracting and maintaining people with the right skills. Some businesses have also referred to the Victorian Government’s 2022 Public Entity Executive Remuneration (PEER) review of executive remuneration.</p>
IT	<p>Software as a Service (SaaS), with all businesses either having transitioned, or are in the process of transitioning, to cloud-based services. This has also resulted in expenditure that would have been classified as capital expenditure now treated as operating expenditure.</p> <p>Cyber security, which is an important issue for all water businesses as well as utilities and other corporations more generally. This includes compliance with new obligations.</p>

Electricity costs

The information submitted by each of the businesses indicates that most are applying the 75th percentile of Schneider’s long-term forecast of the electricity spot price. In its report, Schneider assumes that the water businesses are most likely to enter a contract rather than

remain exposed to spot prices and that contract price will be around the 75th percentile of its forecast.⁷

This conclusion reflects the likelihood that generators will require a 'premium' above their expected spot price to enter a contract because:

- A premium will be required for the generator to be willing to forgo opportunities to sell that capacity if prices rise above the expected spot price (recognising that the generator is also benefiting if prices fall).
- If it is 'caught short' in terms of its ability to deliver the contracted capacity, it may need to go into the market to procure the shortfall at the prevailing spot price and is therefore exposed to short-term price increases.

Given this, we consider that relying on the 75th percentile of the Schneider forecasts appears reasonable.

We have reviewed each business's proposed energy expenditure within the context of its total forecast controllable operating expenditure proposal. Some businesses have proposed step changes for green power costs, which we have assessed on its own merits.

IT expenditure

As with other costs, we have not sought to directly benchmark IT operating expenditure across the businesses. This is because the needs of each business are likely to vary due several factors, including its size, customer base, the nature and scope of its operations and the age and maturity of its IT architecture and systems. Some businesses may also need to undertake capital expenditure.

We have assessed proposed increases for IT expenditure as proposed by each business on their own merits. We have used this context to satisfy ourselves that the level of IT expenditure for each business is reasonable and justified, particularly for those businesses that appear higher on the comparative metrics.

For businesses that have proposed material increases in IT expenditure which have contributed to increases in baseline expenditure and/or step changes, we have sought to assess whether:

- it appears reasonable for the business to be incurring this expenditure, having regard to necessity/risk as well as the expected benefits
- it is supported by appropriate evidence, such as an IT strategy or business plan

⁷ Schneider Electric 2022, Electricity Price Forecast, Covering FY23 to FY28, Base Case, 23 March, p.17.

- the evidence aligns with the forecasts proposed in the business's Price Review Model.

Labour costs

As for IT expenditure, we have used the information in Appendix A as context when assessing each business's proposed operating expenditure. For most businesses identifying increases in labour costs, this has tended to be a combination of increases in staffing as well as remuneration.

For businesses that have proposed material increases in labour-related expenditure (either as reflected in a baseline uplift and/or step change), we have reviewed the rationale for the proposed increase and sought further supporting information where relevant. This included material increases in FTE numbers and/or increases in remuneration. Where increases have also been attributed to the Superannuation Guarantee Charge (SGC), we have confirmed with the business that this reflects an increase in total remuneration payable.

The following sections summarise our assessment of Lower Murray Water's forecast controllable operating expenditure for the PS5 regulatory period.

3.3 Corporate cost allocation

As outlined in section 2.1, Lower Murray Water has updated its corporate cost allocators that determine the allocation of indirect costs between urban and rural services.

In the current PS4 regulatory period, under the Corporate Allocation Framework corporate costs were allocated based on operational asset expense ledger labour and contractor costs. The same approach has been used to allocate these costs for the PS5 regulatory period. Lower Murray Water has updated the cost allocators based on the average asset expense for labour and contractors over the last five years. This has resulted in the following changes to the cost allocators:

- urban: increase from 52.5 per cent to 62.4 per cent
- rural: decrease from 47.5 per cent to 37.6 per cent.

We reviewed the calculations underpinning the updated allocators and this appears reasonable.

A separate cost allocator is applied for billing and IT costs. For the PS4 regulatory period the costs were allocated based on the number of customer services only. For the PS5 regulatory period Lower Murray Water has reviewed this approach under its Corporate Allocation Framework and proposes that this is based on an average of causal-based employees (FTE)

and the number of customer services. This is seen as a more appropriate indicator of relevant activity. This has resulted in the following changes to the cost allocators:

- urban: increase from 78 per cent to 90 per cent
- rural: decrease from 22 per cent to 10 per cent.

We consider that extending the cost allocator beyond customer numbers to include FTEs is more likely to reflect relative effort (or activity) in managing functions that are shared between urban and rural services. We have also reviewed the calculations underpinning the updated allocators and this appears reasonable.

As outlined in its PS5 submission, Lower Murray Water discussed the proposed changes with its urban and rural customers as part of its engagement, noting the impacts that this would have on the allocation of costs between urban and rural services.⁸ This indicated general support for the review and the proposed changes.

For the reasons outlined above, we consider that the revised metric used to allocate billing and IT costs appears reasonable. We have also verified the underlying calculations for both allocators. We also note the general support for the updated allocators as part of Lower Murray Water's customer engagement. We therefore consider the updated allocators to be reasonable.

The change in corporate cost allocation has resulted in an increase to the 2021-22 baseline for urban services of \$0.9 million. This is driven by the increase in the allocation of indirect corporate costs to urban services. Lower Murray Water has also made a corresponding - \$0.9 million adjustment to the 2021-22 baseline for rural services.

3.4 Assessment of the baseline

After adjusting for non-recurring items, Lower Murray Water's adjusted controllable operating expenditure in 2021-22 was \$27.21 million. This represents an increase in actual expenditure of \$4.5 million (or 19.6 per cent) compared to the \$22.74 million benchmark allowance approved by the Commission as part of the last price review.

We have assessed the reasonableness of the proposed baseline expenditure by verifying that:

- any additional expenditure above the benchmark allowance is consistent with what is required by a prudent business operating efficiently

⁸ Lower Murray Water 2022, 2023-28 Price Submission, 27 September, pp.15-18.

- the forecast operating expenditure does not include any items that are non-recurring.

Given the materiality of the baseline increase, we explored the drivers of this in detail with Lower Murray Water.

3.4.1 Positive adjustments for items not occurring in 2021-22

In addition to removing non-recurring items from the 2021-22 baseline, Lower Murray Water added the following two items.

Update to corporate cost allocators

As noted above, Lower Murray Water made a \$0.9 million increase to the 2021-22 baseline for the increased allocation of indirect corporate costs to urban services. This accounts for around 20 per cent of the \$4.5 million baseline increase above the Commission's benchmark allowance. If this impact was removed, the baseline increase would be \$3.6 million, which is still 15.7 per cent above the Commission's approved benchmark allowance.

Training costs

Given Lower Murray Water's training programs in 2021-22 were impacted by COVID-19, it has added these costs back into the baseline (\$0.1 million). Lower Murray Water indicated that this reflects its estimated recurrent costs based on an increased focus on development training, including its leadership program, as well as succession planning. We consider that this is a reasonable adjustment.

3.4.2 Changes in the PS4 regulatory period

As referred to in its price submission, Lower Murray Water has embarked on a Business Transformation Program (BTP) during the current PS4 regulatory period. Given this is a significant organisation-wide initiative that has had an impact on its expenditure, we explored this further in our discussions with the business. Lower Murray Water provided us with a presentation summarising the BTP and the implications of this for its operating expenditure in the PS4 and PS5 regulatory periods.

The BTP was one of the key organisational priorities for the PS4 regulatory period. This organisation-wide review had several drivers, including improving alignment, improving engagement with customers, improving service delivery while managing costs and managing data. This addressed several known issues within the organisation, including:

- operational inefficiencies, including a lot of manual processes
- ageing technology (including systems that are 20 years old), reflecting historical underinvestment in IT

- the need for customer improvements, including a recognition that Lower Murray Water was ‘falling behind’ on aspects such as billing when compared to other utilities.

The BTP identified several initiatives based on achieving the following key outcomes:

- improving the customer service experience, including customer-centric system design and a ‘single source of truth’ for customer data
- improving employee engagement and culture, including the automation of key administrative tasks and workflows
- improving Lower Murray Water’s systems and data architecture to support its customer and regulatory commitments
- improving operational efficiencies, a key driver of which is using technology to enhance the management of assets and operations and optimising the use of data in decision-making.

Lower Murray Water is currently in the ‘Horizon 1’ phase of implementation, which has involved an uplift in its core technology platforms, including customer system development that will support initiatives planned for Horizon 2. Horizon 2 initiatives will be implemented over the PS5 regulatory period and will include the development of data repositories, asset management improvements, the development project lifecycle management systems and customer service. Most ICT solutions will be Cloud-based.

Implementation of the BTP can be expected to lead to efficiencies in future regulatory periods.

Lower Murray Water described several other issues that have impacted it over the PS4 regulatory period. This includes ongoing challenges in managing water quality, particularly given the Murray River catchment is an unprotected catchment that continues to be impacted by changes in environmental conditions. Lower Murray Water also cited increases customer expectations around water quality and the management of the impacts of climate change.

As with all businesses, Lower Murray Water also had to manage the impacts of the COVID-19 pandemic, which also necessitated redirecting resources into other areas of the business.

3.4.3 Labour costs

After excluding the variances associated with the Corporate Allocation rate, Lower Murray Water attributes \$1.2 million of the additional 2021-22 urban expenditure to movements in labour costs. We explored this further with Lower Murray Water and it explained the following drivers.

Increase in FTEs

Lower Murray Water has employed additional staff over the PS4 regulatory period. Based on the information in its Price Review Model, full time equivalent (FTE) positions are projected to increase by around 22 between 2017-18 and 2022-23. This is materially above the numbers projected in the Commission's final 2018 Price Review Model.

Lower Murray Water provided several documents explaining the drivers of the increase, which also evidenced that the increase in staff numbers has occurred as part of an organisation-wide strategy, rather than on a more 'ad hoc' basis.

A June 2021 Board submission sought approval for 11 new organisational roles. This also followed a major organisational restructure and executive management team change in 2019. A key driver identified was a reduction in 'staff resilience', which was reflected in the outcomes of an employee survey completed in October 2020 (we were also provided with a copy of a Board paper summarising these survey results). Apart from the organisational restructure, other factors attributed to this include the COVID-19 pandemic, the challenges emerging from the BTP and the loss of corporate knowledge from staff turnover.

Lower Murray Water has also experienced higher than expected staff turnover, as evidenced by an Employee Turnover Performance review completed in 2021. In this review turnover had reached 14.5 per cent to the end of May 2021, compared to the average for utilities of 7.5 per cent reported by the Australian Bureau of Statistics. The Board submission identified the additional costs that turnover imposes on the organisation. Lower Murray Water estimated a direct cost of approximately \$30 000 to replace each employee lost. It estimates the total cost of its (then) annual turnover rate at around \$1 million per year, comprising direct costs, indirect costs and loss of productivity.

Several other drivers of the need for additional resources were also identified.

Having regard to these drivers, Lower Murray Water's executive management team completed a risk-based review of the additional resources required to meet high priority responsibilities and service expectations. This is intended to address responsibilities that were being unmet, as well as increases in additional responsibilities or service expectations. The proposed positions were detailed and costed in the Board submission.

Other drivers

Lower Murray Water's labour cost forecast includes an enterprise award increase of 2.5 per cent per year, applying from 2021 until 2025. As with other regional water businesses, Lower Murray Water cited challenges in attracting and retaining staff.

Other labour cost drivers identified by Lower Murray Water include:

- implementation of its Gender Equality Action Plan 2022-25, which we were provided a copy of
- an increased focus on training, including its Leadership and Talent Management framework. This is also underpinning proposed step changes in training costs for the PS5 regulatory period.

Assessment

Overall, we consider that Lower Murray Water has provide adequate substantiation of the baseline increase attributable to labour costs and the magnitude of costs appear reasonable.

3.4.4 Chemicals costs

Lower Murray Water has experienced increases in chemicals costs over the PS4 regulatory period (approximately \$0.45 million). This has been driven by the increase in the unit cost of chemicals (as experienced by the other water businesses) as well as additional treatment for poor water quality.

Lower Murray Water's explanation of the drivers

As noted above, Lower Murray Water's main water source, the Murray River, is an open and unprotected catchment. Lower Murray Water explained the implications of this for its water treatment activities and provided us with a supporting document. This highlighted the impact of climate change on deteriorating water quality, which is contributing to increased blue green algae blooms and blackwater events.

Lower Murray Water also explained the implications of a Department of Health Guidance provided to all water businesses in preparation of their submissions for the PS5 regulatory period, which does recognise the challenges in maintaining water quality, including meeting the *Australian Drinking Water Guidelines*. The Guidance emphasises the need for the water businesses to take actions to minimise the impact on water quality associated with weather events and improve the resilience of water supply systems. It also advocates addressing aesthetic characteristics and the need to ensure that taste, odour, colour, turbidity, and appearance meet customers' expectations.

Lower Murray Water has been using Powdered Activated Carbon to meet these standards, which is resulting in additional costs. As Lower Murray Water outlines in its submission, it has been trialling the use of new filter media using Granular Activated Carbon, which may provide benefits at other sites.⁹ Lower Murray Water's PS5 price submission outlines some of the other key activities it is undertaking to manage water quality and reduce costs, including daily monitoring.

The supporting document also provides information on the quantum of increases in the prices of key treatment chemicals under new contract pricing, which has ranged between 18 per cent and 32 per cent.

Lower Murray Water PS5 price submission states that its chemicals budget for 2022-23 (\$1.3 million) has been carried forward for the PS5 regulatory period. It advised us that this budget is \$60 000 lower than its actual chemicals expenditure for 2021-22. It has forecast a flat profile for these costs over the PS5 regulatory period.

Assessment

Overall, we consider that Lower Murray Water has adequately substantiated the baseline increase attributable to chemicals costs and the costs appear reasonable. We also note that its forecast maintains a flat profile for these costs over the PS5 regulatory period, so it will be bearing the risk of any future increases in chemicals costs.

3.4.5 IT costs

Lower Murray Water's explanation of the drivers

Lower Murray Water attributes approximately \$1 million of its baseline increase to increases in IT costs. This will reflect the implementation of its first phase of the BTP (Horizon 1), which as noted above, has focussed on improving its core technology platforms.

Much of this increase in costs is attributed to licence fees for Cloud-based platforms. As noted in section 3.2, this has resulted in costs that otherwise would have been included in capital expenditure now treated as operating expenditure.

As with the other water businesses, Lower Murray Water has also been investing in improvements to its cyber security capability (refer Appendix A). Lower Murray Water provided us with further information on its Cybersecurity Program, which was subject to a major assessment conducted in 2021-22. That assessment rated Lower Murray Water's cyber security risk as high across most domains. As a result, Lower Murray Water has

⁹ Lower Murray Water 2022, 2023-28 Price Submission, 27 September, p.74.

appointed a full-time ICT Cyber Security Officer and has identified and commenced the implementation of several initiatives.

Assessment

Lower Murray Water provided copies of its two main software licence agreements, which included the proposed licence fees for five years from (and including) 2022-23. As discussed below, a further increase in fees for these licences is expected between 2022-23 and 2023-24, which is driving the proposed step change for ICT expenditure.

Based on our discussions with Lower Murray Water and the information provided, it is reasonable to expect an increase in IT costs as consequence of its BTP, particularly given the age, maturity and risk profile of its existing IT architecture, including its cyber security capability. Lower Murray Water is addressing these needs within a strategic organisation-wide context underpinned by IT that provides it with the capability to improve and maintain outcomes to customers. The transition to Cloud-based services is also seeing most of these costs classified as operating expenditure rather than capital.

Overall, we consider that Lower Murray Water has adequately substantiated the baseline increase attributable to IT costs and the forecast costs appear reasonable.

3.4.6 Water reticulation and distribution

Lower Murray Water advised that around \$0.4 million of the baseline uplift is attributable to increases in urban water reticulation and distribution costs. This reflects ongoing expenditure the business has been incurring that is primarily associated with the replacement of small meters (based on their value, these meters are treated as operating expenditure rather than capitalised).

It advised that its current PS4 allowance reflects an annual (average) budget of \$1.98 million. Over the last three years, actual annual expenditure has averaged \$2.4 million. This partly reflects some 'catch-up' work in relation to meter replacements.

For the PS5 regulatory period it has advised that will continue to incur higher expenditure (compared to the budget reflected in the PS4 allowance) although not to the same extent. While the profile of this expenditure can vary between years, it is forecasting average annual expenditure of around \$2.22 million. This is just over \$0.2 million higher than the forecast reflected in the benchmark allowance for 2021-22.

We consider it appropriate to allow an increase in baseline expenditure. However, the \$0.4 million per annum increase experienced in the last three years (including the baseline year) is higher than its estimated ongoing expenditure of around \$0.2 million. We therefore consider that \$0.2 million should be removed from baseline expenditure so that the

budgeted expenditure reflected in that adjusted baseline is consistent with Lower Murray Water's expectations of its actual costs.

3.4.7 Insurance

Another key driver of the 2021-22 baseline increase is insurance costs (around \$0.15 million of which has contributed to the increase for urban services). Again, this is a common theme across all businesses. Lower Murray Water provided us with a copy of its Risk Committee submission regarding its 2022-23 insurance renewal, which substantiates the material increase in insurance premiums in 2021-22 and 2022-23.

We consider that Lower Murray Water has adequately substantiated, and the forecast costs appear reasonable.

3.4.8 Overall assessment of the baseline increase

Lower Murray Water is proposing a material increase in its 2021-22 baseline expenditure – noting that it is proposing no growth in annual expenditure beyond this, including no further (net) increases for step changes. We have reviewed all key drivers of this increase and the only adjustment we would propose is to remove \$0.2 million for additional water reticulation and distribution costs to align with Lower Murray Water's revised estimate of these costs going forward. Otherwise, the baseline does not appear to include any items that are non-recurring.

This adjustment will reduce adjusted baseline controllable operating expenditure by \$0.2 million to \$27.01 million.

3.5 Assessment of the step changes

Lower Murray Water is proposing net total step changes of zero. This is achieved due to savings in key areas, as well as a residual adjustment factor to achieve a net step change of zero. Its two main positive step changes are summarised below.

Table 3.2: Lower Murray Water’s key step changes (\$ 1 January 2023, millions)

Key step changes	Value \$ millions	Explanation
ICT	2.8	Increased ICT expenditure reflecting the rollout of the second phase of Lower Murray Water’s Business Transformation Program and a step-up in SaaS licence fees between 2022-23 and 2023-24.
Large-scale generation certificates	0.5	Increased purchase of large-scale generation certificates to meet commitment to source 100 per cent of its energy from renewable sources by 2025.

Source: Lower Murray Water, 2023-2028 Price Submission.

We have focused our assessment on step change increases only on the basis that these increases are likely to be reflected in the baseline controllable operating expenditure in the next regulatory period. We assessed the reasonableness of those step change increases by examining whether the proposed step changes meet one or more of the following criteria:

- comply with new, or changed, legislative or regulatory obligations
- achieve an outcome or implement an initiative that is endorsed by customers or broadly meets accepted changes in community expectations
- recategorisation of expenditure between capital and operating expenditure, where the business can demonstrate that it is necessary or appropriate to do so
- incremental operating expenditure associated with a new prudent and efficient capital project
- sufficiently material that the costs are not able to be met by an efficient business operating within its approved budget (including the growth allowance) or be otherwise mitigated.

We met with key staff at Lower Murray Water, who provided additional information regarding the proposed step changes.

ICT expenditure – \$2.8 million

Lower Murray Water proposed a step change related to increased ICT expenditure. An additional step change has been forecast for the PS5 regulatory period, which reflects the rollout of the second phase of Lower Murray Water’s BTP and a step-up in SaaS licence fees between 2022-23 and 2023-24.

An overview of this ICT-related initiatives emerging from the BTP was provided above, with the increase in expenditure in the current period relating to the first phase of this program. We have reviewed the licence agreements for the two SaaS providers, along with a Board

submission, to verify the step-up in costs forecast for the PS5 regulatory period. This also has regard to the cost allocator applied for IT costs to determine the allocation between urban and rural services.

We are satisfied that these costs are reasonable.

Large-scale Generation Certificates – \$0.5 million

Lower Murray Water proposed a step change increase to meet the commitment made by the Victorian water businesses to source 100 per cent of its energy from renewable sources by 2025. Each business is employing different strategies to achieve this. Lower Murray Water's strategy includes purchasing of Large-scale Generation Certificates from 2025-26.

The step change reflects its forecast of the costs of purchasing LGCs, which it advised is based on the contract pricing provided by Schneider (refer section 3.2 and Appendix A). We verified that the proposed amount reflects the estimated contribution of urban services to emissions based on forecast kWh.

We are satisfied that these costs are reasonable.

3.5.1 Summary of our step change assessment

Noting that Lower Murray Water is proposing net step changes of zero, we consider that the basis for its proposed step changes is reasonable. This includes its substantiation of the two areas where expenditure is forecast to increase over the PS5 regulatory period.

3.6 Forecast growth and efficiency factors

Lower Murray Water is forecasting average growth in operating expenditure of 1.1 per cent per year and an (average) efficiency factor of 1.1 per cent per year over the PS5 regulatory period. This results in a net increase in operating expenditure over the PS5 regulatory period of zero per cent per year. When comparing this net result against other water businesses, Lower Murray Water is ranked sixth out of 13 urban water businesses subject to this review (see Table 3.2).

Table 3.2: Net average increase in operating expenditure per year by business

Water business	Net average annual increase
South East Water	-0.9%
GWMWater	-0.8%
Wannon Water	-0.3%
Gippsland Water	-0.2%
Yarra Valley Water	-0.2%
Lower Murray Water (Urban)	0.0%
Barwon Water	0.1%
South Gippsland Water	0.2%
Westernport Water	0.5%
Coliban Water	0.5%
East Gippsland Water	0.7%
Goulburn Valley Water	1.1%
Central Highlands Water	1.2%

Source: Calculated from pricing models submitted by water businesses.

3.7 Summary of urban services operating expenditure assessment

Based on Lower Murray Water's PS5 submission, discussions with the business and further information provided, we consider that its adjusted operating expenditure in 2021-22 for urban services is consistent with a prudent business operating efficiently and does not require any further adjustments.

The key driver of an increase in operating expenditure between the PS4 and PS5 regulatory periods is an increase in 2021-22 baseline expenditure above the benchmark allowance approved by the Commission. We are satisfied that the key drivers of the additional

expenditure appear reasonable, and the baseline does not appear to include any items that are non-recurring.

However, we have proposed a small adjustment to remove \$0.2 million for additional water reticulation and distribution costs, to align with Lower Murray Water’s revised estimate of these costs going forward. This adjustment will reduce adjusted baseline controllable operating expenditure by \$0.2 million to \$27.01 million.

While Lower Murray Water is proposing net step changes of zero, we are satisfied that the two elements that reflect increases in costs are reasonable and have been substantiated. Lower Murray Water has also proposed a net growth factor of zero per cent per year.

Table 3.3: Recommended adjustments – controllable operating expenditure (\$ 1 January 2023, millions)

	2023-24	2024-25	2025-26	2026-27	2027-28
Forecast controllable operating expenditure	26.96	27.11	27.22	27.69	27.12
Recommended adjustments - baseline					
Water reticulation and distribution	0.20	0.20	0.20	0.20	0.20
Adjusted total operating expenditure	26.76	26.91	27.02	27.49	26.92

4 URBAN SERVICES CAPITAL EXPENDITURE ASSESSMENT

4.1 Overview of assessment approach

The Commission’s Guidance Paper states that forecast capital expenditure is:

.... capital expenditure that would be incurred by a prudent service provider acting efficiently to achieve the lowest cost of delivering service outcomes, taking into account a long-term planning horizon (prudent and efficient forecast capital expenditure).¹⁰

We have assessed Lower Murray Water’s forecast urban capital expenditure for the PS5 regulatory period focusing on the significant Top 10 major project expenditure and key capital expenditure programs.

The assessment considered the details provided in the submission and any additional information requested, against the criteria set out in Figure 4.1.

Figure 4.1: Criteria used to assess forecast capital expenditure

Assessment of capital program
<ul style="list-style-type: none">• Link to customer service outcomes, regulatory obligations and risk management• Comparison of forecast and actual capital expenditure• Reliability of cost estimation• Deliverability of capital program
Assessment of major capital projects and programs
<ul style="list-style-type: none">• Major capital projects and programs are clearly justified• Proposed delivery solution is reasonable

Having regard to these criteria, we have also considered whether any adjustments to the proposed expenditure forecast would be considered appropriate, material and justified.

The assessment of Lower Murray Water’s major project and program capital expenditure is based on the information provided in the PS5 submission, additional information supporting the significant expenditure and Lower Murray Water’s overall approach to the

¹⁰ Essential Services Commission 2021, 2023 water price review, Guidance paper, 26 October, p.33.

development of the program, the cost estimation and the delivery within the PS5 regulatory period.

The supporting strategies, plans, business cases and responses provided by Lower Murray Water indicate a well-developed capital expenditure program.

4.2 Assessment of overall capital program

4.2.1 Link to customer outcomes and obligations

Lower Murray Water's PS5 submission includes an appendix outlining major projects and programs along with their justification and links to customer outcomes. The proposed capital program seeks to achieve the following broad outcomes:

- water purchases to secure water supplies
- upgrades and renewals to water distribution systems to ensure service levels can be reliably met
- increasing storage for recycled water to ensure environmental obligations are met.

4.2.2 Comparison of forecast and actual capital expenditure – PS4

Lower Murray Water expects to deliver a capital expenditure program of \$77.9 million within the PS4 regulatory period. This is 4 per cent lower than the capital expenditure benchmark allowance approved by the Commission for the PS4 regulatory period. Despite some construction site access risks associated with the recent floods, Lower Murray Water advised that they expect to deliver on the forecast provided in the submission.

The submission identified approximately \$13 million of variances associated with:

- bulk water entitlement purchases (\$5.7 million) to take advantage of favourable water markets
- cost escalations in the UV treatment project (\$7.5 million) resulting from market/scope impacts and design changes to manage asset performance.

Lower Murray Water has indicated that all major projects have been completed or otherwise have contracts in place to complete any carryover expenditure.

4.2.3 Forecast capital expenditure – PS5

Lower Murray Water's forecast capital expenditure for the PS5 regulatory period is \$98.6 million. This is:

- \$20.7 million (or 27 per cent) more than its actual capital expenditure (including 2022-23 forecast) over the PS4 regulatory period

- \$19.6 million (or 17 per cent) less than the forecast capital expenditure outlook for the PS5 regulatory period that it included in its PS4 submission.

We have assessed the total capital expenditure of \$98.6 million, less the UV treatment project expenditure of \$3.8 million, because this expenditure has already been incurred by Lower Murray Water in the PS4 regulatory period.

The key contributors to Lower Murray Water's higher forecast capital expenditure for the PS5 regulatory period, compared to the PS4 period actual expenditure are bulk water entitlement purchase costs (\$8 million) and the Red Cliffs improvements to water pressure (\$9.4 million). The submission identifies a modest increase in renewals and replacement investment.

The key drivers for the PS5 capital expenditure program are:

- improvement/compliance – \$33.3 million, which comprises 34 per cent of the total capital expenditure program
- renewals – \$42 million, which comprises 43 per cent of the total capital expenditure program
- growth – \$23.4 million which is approximately 24 per cent of the total program

Lower Murray Water's top 10 major projects together account for \$35.5 million and remaining programs account for \$63.1 million. The major areas of expenditure are:

- upgrades to water distribution systems in Mildura and Red Cliffs (\$13.2 million)
- water and sewer main renewals (\$12.2 million)
- additional water purchases to secure water supplies (\$8.1 million)
- upgrades to wastewater/recycled water storage at Koorlong Wastewater Treatment Plant to comply with environmental obligations (\$6.1 million)
- more than 50 listed individual programs and minor projects (\$34.8 million).

Lower Murray Water's forecast capital expenditure program beyond the PS5 regulatory period is expected to reflect a significant step-up associated with a new water treatment plant, a new water storage and a rising main upgrade. Design costs for these projects have been included within the PS5 regulatory period forecast.

Based on the information contained in Lower Murray Water's PS5 submission and the additional supporting information provided, we consider that there was sufficient justification for the proposed major capital projects. The submission has noted the inclusion of the \$3.8 million additional expenditure in the UV treatment project incurred within the PS4 regulatory period, which has been included in the PS5 forecast for 2023-24.

4.2.4 Underlying processes for developing the program

Lower Murray Water's capital program has been developed in line with its Asset Management, Risk Management and Capital Planning and Forecasting frameworks, which guide investment decision making, capital prioritisation and cost estimation. Projects are ranked and prioritised on the basis that they are designated as mandatory (for example, compliance related), they contribute to customer outcomes and strategic objectives and/or they address extreme or high risks to the business. Projects are rated using a risk score and their contribution to the achievement of objectives.

Business cases, strategies and plans support major areas of expenditure. We requested and reviewed a sample of strategies and plans including the Lower Murray Water's Urban Water strategy, Long Term Water Supply strategy, Wastewater strategy, Mildura Water Masterplan and Aged Based Renewal forecast report.

To reduce pricing risks to customers, Lower Murray Water has included design related capital expenditure only for projects with uncertain scope and costs and excluded projects with uncertain timing. It separately listed the design work included in its capital expenditure forecasts for the PS5 regulatory period associated with a range of uncertain projects.

Based on our review of the approach outlined in the submission and the additional information provided, we consider that Lower Murray Water has well-developed supporting documentation and processes supporting the development of its capital program, consistent with a prudent service provider operating efficiently.

4.2.5 Reliability of cost estimation

Lower Murray Water's Capital Planning and Forecasting Framework 2022 sets out and guides its approach to cost estimation and contingencies for major projects, renewals forecasting and minor projects/programs.

Lower Murray Water applies contingency allowances in project cost estimates that reflect the project type and relevant risks associated with the project:

- for routine works and renewals forecasts, it does not include contingency allowances in cost estimates, reflecting ongoing efficient delivery.
- for major, complex or high-risk projects, it includes contingency allowances based on project risks.

Lower Murray Water has noted the additional cost risk which it is taking on behalf of its customers associated with construction market cost increases beyond the adopted CPI indexation of its capital costs.

Lower Murray Water's approach to cost estimation appears to provide an appropriate basis for developing the budget estimates for its PS5 capital expenditure program.

4.2.6 Deliverability of capital program

Lower Murray Water's submission references the lower level of PS5 regulatory period forecast capital expenditure relative to historical peaks, along with established contract management procedures and a dedicated internal delivery team (supported by consultants where required), as evidence it can deliver the capital program.

Lower Murray Water's submission also references a review of the program with a deliverability focus including decisions around procurement. The review outcomes have resulted in among other changes, processes to capture key project learnings to refine contract management procedures and providing more attractive commercial scale options for procurement and competitive tendering.

Lower Murray Water competitively tenders its capital projects except for some lower-risk watermain or irrigation pipeline projects, which may be resourced with internal capability where it is satisfied that efficiency and quality can be delivered.

Based on the information provided in Lower Murray Water's PS5 submission and the nature of the major project expenditure (including water purchases and larger pipeline projects component), we have a reasonable level of confidence that Lower Murray Water's capital program is deliverable in the PS5 regulatory period.

4.3 Assessment of major projects and major programs

4.3.1 Major projects

Lower Murray Water's major project capital expenditure totals \$35.5 million, which accounts for 36 per cent of its forecast capital expenditure for the PS5 regulatory period. Lower Murray Water has provided business cases and supporting information for selected major projects, which provide sufficient justification and links to customer outcomes, risk and/or regulatory obligations. The top 10 major projects achieve the following broader outcomes:

- to secure water supplies
- ensure compliance with environmental obligations
- to upgrade and renew water distribution and sewer assets to ensure service levels are reliably met.

We focused our review of major projects on the business cases and supporting documents for the four largest expenditure projects, (Purchase of water. Mildura water mains upgrade,

Red Cliffs water distribution improvements, Koorlong wet weather storage). We also assessed the Mildura water storage stage 1 project to understand scope and staging and the apparent high design cost for the Koorlong rising main.

We did not review further the remaining projects (customer portal, asset management system automation and Swan Hill water treatment plant design costs). The customer portal is the second phase of a current project, the asset management automation consists of 15 smaller projects and the design cost of \$1 million is not considered unreasonable for a new water treatment plant. Purchase of water approximately 1 GL (\$8.1 million)

The project is an outcome from the Lower Murray Water Urban Water Strategy which identified potential water supply shortfalls within the PS5 regulatory period.

Lower Murray Water considers that the \$8.1 million estimate is a conservative upper limit. It has been calculated based on a historical market rate analysis with decisions to purchase based on annual updates to climate, water supply/demand forecasts and water market conditions.

Lower Murray Water's forecast expenditure is well supported by robust planning within the Urban Water Strategy. While decisions to purchase will be dependent on updated forecasts and the expenditure is considered a conservative upper limit, there exists some risk of over-recovery, relating to prevailing climatic/water security/market conditions over the PS5 regulatory period.

Purchase of water approx. 1 GL – \$8.1 million

The project is an outcome from the Lower Murray Water Urban Water Strategy which identified potential water supply shortfalls within the PS5 regulatory period.

The purchase cost has been based on a historical market rate analysis, with decisions to purchase, based on annual updates to climate, water supply/demand forecasts and water market conditions. The \$8 million is considered by Lower Murray Water as a conservative upper limit.

The expenditure is well supported by robust planning underpinning the Urban Water Strategy and the proposed expenditure profile is well aligned with the projected water volume required to maintain adequate water security levels of service within the PS5 period. As outlined in the water purchase business case, this projected volume requirement is based on the current water outlook, with a lower probability of water shortage in the short term, and hence a forecast expenditure profile that pushes the majority of the expenditure out to later in the PS5 period. Whilst noting that there is a high level of uncertainty associated with the climate variability impacts used in the supporting water resource modelling, our view is that the proposed expenditure profile and associated

water purchase timing is prudent and achieves an appropriate balance in managing supply risks to maintain adequate levels of water security. As such, we do not recommend any adjustments to the proposed water purchase expenditure.

Mildura water mains upgrade – \$3.8 million

The Mildura water mains upgrade project and business case are supported by an options report and masterplan. The project is linked to likely development in the PS5 regulatory period and its impact on existing customer service levels. Some costs will be recovered through developer contributions.

The project appears justified, with a good level of supporting planning.

Mildura water storage 10 ML (Stage 1 Pump Station works) – \$1.1 million

The Mildura water storage project is aimed at renewing electrical assets at the end of their asset life and is linked to the water storage project and associated pump station upgrade (Stage 2 in the PS6 regulatory period).

Lower Murray Water advised that the renewal of electrical assets cannot be delayed to coincide with the storage project and pump upgrade in the PS6 regulatory period due to unacceptable safety and operational risks with the existing electrical equipment. The project scope provides for the future upgrade of the pump station in the PS6 regulatory period associated with the new water storage.

The project appears justified, with a good level of supporting planning.

Red Cliffs Water Distribution improvements – \$9.4 million

The Red Cliffs Water Distribution improvements project responds to existing customer complaints about low water pressure. The low water pressures relate to a legacy standpipe supply which cannot maintain minimum pressure service levels to a large proportion of customers. Lower Murray Water advised that field validation and predictive modelling provide supporting evidence that the water supply pressure service levels in the customer charter are not met. The current capacity limitations also provide a potential impediment to development in the area.

The project will also address reliability risks with the existing 4.5 kilometre supply main by bringing forward its future renewal. A comprehensive options assessment report was provided, which supports the business case.

The project appears justified, with a good level of supporting planning.

Koorlong wet weather storage - \$6.1 million

The Koorlong wet weather storage project is supported by a consultant's report identifying an additional storage volume requirement of 300ML to comply with the environmental standard into the future, based on assumptions around recycled water irrigation areas and demand.

Lower Murray Water has identified additional risks relating to future irrigation areas and recycled water demand in a cost-risk optimisation process they have undertaken, which has yielded a larger 400 ML volume. The cost estimate has identified and included project risks of approximately \$1.7 million.

The project appears justified, with a good level of supporting planning.

Koorlong rising main design only – \$1.5 million

We selected the Koorlong rising main design project due to its higher than expected design costs. Lower Murray Water advised that based on experience, the higher design costs are expected for the project due to identified complex planning and approval aspects with the pipeline location.

The supporting information reviewed for the major projects, provides sufficient confidence that the major project expenditure is consistent with a prudent service provider operating efficiently.

4.3.2 Major programs

The balance of the capital expenditure program consists of:

- larger programs (\$28.3 million) including water and sewer mains replacements, motor vehicles, minor water and sewer capex, ICT equipment and Corporate facilities
- more than 50 individual listed programs and minor projects (\$34.8 million)

We requested and reviewed business cases and supporting documents for two of the larger programs, as discussed below.

Minor capital works water and sewerage – \$7.1 million

The business case includes historical costs for the program. Based on additional information provided, the PS5 period expenditure forecast is approximately 10 per cent higher than the PS4 budget. Lower Murray Water provided a preliminary list of currently identified priority minor capital projects and advised that at this stage, not all projects are defined within the program. Lower Murray Water advised they are currently experiencing a larger than normal proportion of unplanned/unforeseen renewals resulting from operational observations,

asset failures and incidents which are being prioritised in the existing program. This is resulting in a backlog of planned works and the current preliminary list is yet to be updated with these backlog projects. Based on current trends, Lower Murray Water expects that it will continue to exceed the program budget for minor capital works program due to the backlog and level of unforeseen projects. This trend is also likely to be accentuated by the recent significant flooding event and its impacts on Lower Murray Water's asset base.

Program costs are based on historical costs with a construction-based cost indexation applied to establish rates effective from 2023.

While a portion of the program is currently undefined, Lower Murray Water provided a sufficient level of information around current and likely expenditure, including recent examples of unplanned works, to support an increase to its minor works capital program.

Major Program Water and Sewer Main renewals – \$12.2 million

A business case and comprehensive age-based renewal forecast report underpin the water and sewer renewal programs.

Lower Murray Water advised that the overall budget is based on the age-based renewals profiles for water and sewer mains, historical expenditure on mains renewals and capacity to deliver the program. Our review of those reports suggests that the level of forecast expenditure is well linked to the asset age-based renewal profiles.

The mains which are replaced each year are determined using a risk-based asset prioritisation methodology which considers consequences, failure history and asset age and material. An annual assessment is undertaken to identify the critical and high-risk mains. Lower Murray Water has provided a list of currently identified and prioritised assets for the program.

Program costs have been developed through historical expenditure, regular market testing and Lower Murray Water's experience in delivering similar projects and programs.

The information provided around the program expenditure, indicates that the methodology to determine the expenditure is consistent with a prudent service provider acting efficiently.

4.4 Summary of urban services capital expenditure assessment

Based on the information provided by Lower Murray Water in relation to its forecast capital expenditure on major projects and programs expenditure along with the approaches to developing the program, the cost estimation and the delivery of the program we consider that:

- the proposed capital program for urban services is consistent with a prudent service provider acting efficiently
- the forecast capital expenditure for urban services is justified, robust and is capable of being delivered by Lower Murray Water in the PS5 regulatory period.

As such, we do not propose any adjustments to Lower Murray Water's forecast capital expenditure for the PS5 regulatory period.

PART 2

RURAL WATER SERVICES

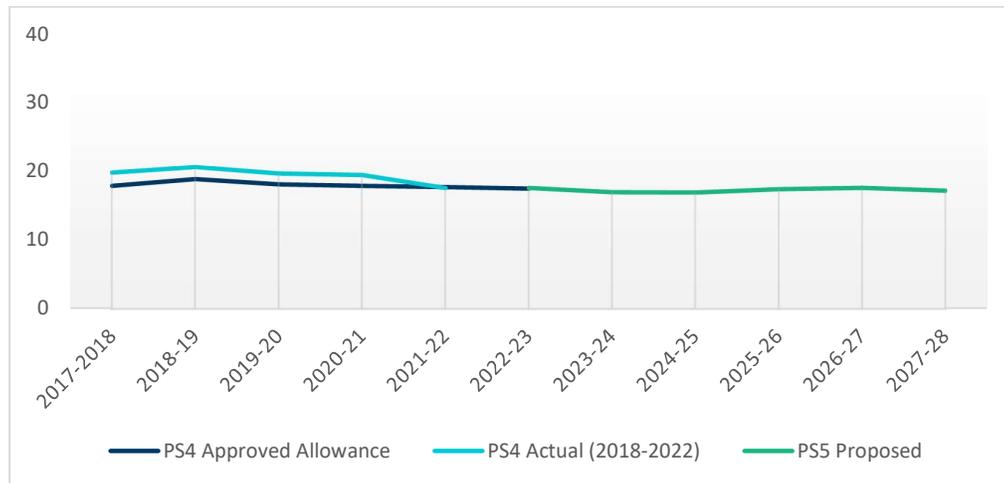
5 SUMMARY OF RURAL SERVICES EXPENDITURE PROPOSAL

5.1 Forecast controllable operating expenditure

For the current PS4 regulatory period, the Commission approved a total controllable operating expenditure benchmark allowance for Lower Murray Water’s rural services of \$89.7 million (\$ 1 January 2023).

For the first four years of the PS4 regulatory period, Lower Murray Water’s actual operating expenditure was \$6.28 million (8.7 per cent) above the benchmark allowance approved by the Commission for those four years. This is shown in Figure 5.1.

Figure 5.1: Lower Murray Water’s rural actual and forecast controllable operating expenditure by year (\$ 1 January 2023, millions)



Source: Lower Murray Water, YVW_2023 Price Review Model - 20220929, 3 October 2022; Essential Services Commission 2018, Lower Murray Water Determination Price Review Model: 1 July 2018 – 30 June 2023, 29 May.

While Lower Murray Water’s actual operating expenditure for rural services has been higher over the first four years of the PS4 regulatory period, after adjustments are made for non-recurring items (as well as recurrent items not incurred in that year), its baseline 2021-22 controllable operating expenditure is \$17.51 million, which is \$0.14 million (or 0.8 per cent) below the benchmark allowance approved by the Commission in the last price review.

Lower Murray Water has proposed a total step change decrease to the baseline of -\$1.8 million across the PS5 regulatory period, comprising:

- -\$1.6 million - electricity costs
- \$0.9 million – Large-scale Generation Certificates
- \$0.2 million - PS6 consulting costs
- -\$1.3 million - total identified variations.

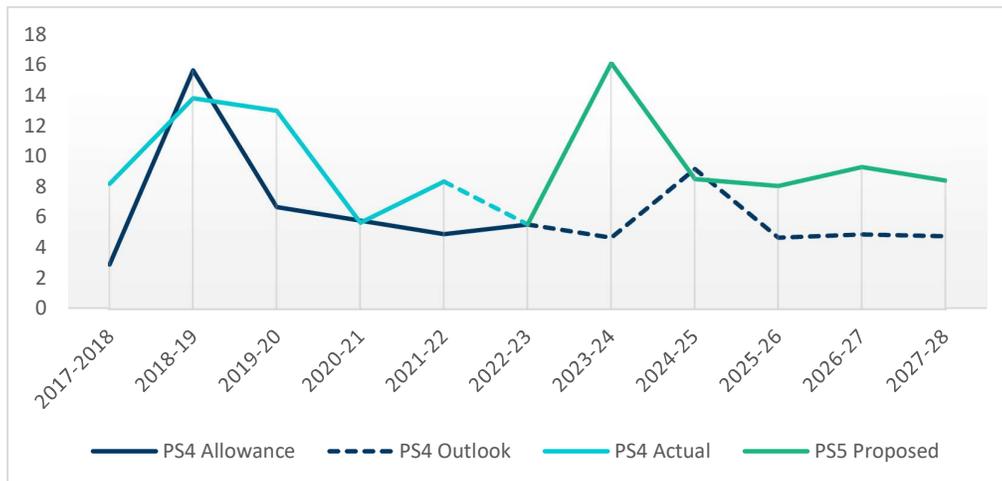
Lower Murray Water has forecast average net growth in baseline controllable operating expenditure of zero per cent per year over the PS5 regulatory period.

5.2 Forecast capital expenditure

Lower Murray Water has forecast rural capital expenditure of \$50.4 million for the PS5 regulatory period. As shown in Figure 5.2, this is:

- 9 per cent more than its actual capital expenditure (including 2022-23 forecast) over the PS4 regulatory period
- 79 per cent more than the forecast capital expenditure outlook for the PS5 regulatory period that it included in its PS4 submission.

Figure 5.2: Lower Murray Water’s rural actual and forecast rural capital expenditure by year (\$ 1 January 2023, millions)



'PS4 Approved Allowance' relates to the approved capital expenditure allowance for 2017-18 to 2022-23, and its 2018 forecast for 2023-24 to 2027-28.

Source: Lower Murray Water, Lower Murray Water-R_2023 Price Review Model – 2022-08-04 LOCKED for loading inputs; Lower Murray Water, FD_Lower Murray Water-R_Price Review Model; Essential Services Commission 2018.

The key, projects and programs are defined in the submission, and include:

- renewals (\$30.6 million), comprising 61 per cent of total forecast capital expenditure
- improvements/compliance (\$12.8 million), comprising 25 per cent of total forecast capital expenditure
- three listed major projects (\$3.4 million)
- defined programs and other discrete capital expenditure (\$47 million).

Lower Murray Water’s major capital expenditure projects, shown in Table 2.1, account for 7 per cent of its forecast capital expenditure for the PS5 regulatory period.

Table 5.1: Lower Murray Water’s rural top 10 capital expenditure projects (\$ 1 January 2023, millions)

Major capital expenditure project	Forecast expenditure)
Customer CRM portal Phase 2	0.5
Robinvale decommissioning	2.1
Asset Management Improvement – Fixed Asset Implementation and Value study initiatives	0.8

Source: Lower Murray Water, Lower Murray Water Price Submission 2023-28, 27 September 2022.

Note: Only three major projects are listed in the Rural component of Lower Murray Water’s PS5 submission.

6 RURAL SERVICES OPERATING EXPENDITURE ASSESSMENT

6.1 Overview of assessment approach

We have applied the same assessment approach as outlined in section 3.1. Lower Murray Water's rural services have also experienced similar cost drivers to urban services in areas such as electricity, labour, IT and insurance.

6.2 Cost allocation between urban and rural services

Lower Murray Water has updated its cost allocators to allocate indirect costs between urban and rural services based on its Corporate Allocation Framework. This has involved applying updated metrics to the same methodology that was used to develop its operating expenditure forecasts for the PS4 regulatory period. This has resulted in a reallocation of some indirect costs to urban services for the PS5 regulatory period, which is reflected in a positive baseline adjustment for those services and a corresponding negative baseline adjustment for rural services.

As outlined in section 3.2, we consider that Lower Murray Water's cost allocators are reasonable.

6.3 Assessment of the baseline

After adjusting for non-recurring items and adding recurrent items that were not reflected in that year, Lower Murray Water's adjusted controllable operating expenditure in 2021-22 was \$17.51 million. This is \$0.14 million (or 0.8 per cent) less than the \$17.65 million benchmark allowance approved by the Commission as part of the last price review (\$ 1 January 2023).

We verified that the adjustments to the baseline were appropriate, which included:

- non-recurring items
- normally incurring items that were not represented in the baseline year.

Lower Murray Water added to two normally incurring items that were not represented in the base year, being:

- \$0.08 million for training and travel costs, which were impacted by COVID-19 in 2021-22. As outlined in section 3.4.1, Lower Murray Water indicated that this reflects its estimated recurrent costs based on an increased focus on

development training, including its leadership program, as well as succession planning.

- \$0.29 million for electricity costs. This was because in 2021-22 it experienced decreased volumetric demand due to higher rainfall (compared to prior year averages).¹¹

We consider that both adjustments are reasonable.

As Lower Murray Water's proposed baseline is below the benchmark approved by the Commission for 2021-22, we can be satisfied that the expenditure reflects the costs incurred by a prudent business operating efficiently. We have therefore not sought to interrogate this baseline expenditure in any more detail.

6.4 Assessment of the step changes

Lower Murray Water is proposing total step changes of -\$1.8 million in the PS5 regulatory period. This is achieved due to savings in key areas, as well as a balancing adjustment factor to achieve a net step change of -\$1.8 million. A summary of the step changes is provided below.

- **Electricity (-\$1.6 million):** Lower Murray Water is forecasting a significant reduction in electricity costs for the PS5 regulatory period. It has applied the Schneider forecast in developing its forecast electricity costs (refer section 3.2 and Appendix A).
- **Large-scale Generation Certificates (+\$0.9 million):** These costs will be incurred to meet the commitment made by the Victorian water businesses to source 100 per cent of their energy from renewable sources by 2025. Each business is employing different strategies to achieve this. Lower Murray Water's strategy includes the purchase of Large-scale Generation Certificates from 2025-26. The step change reflects its forecast of the costs of purchasing LGCs, which it advised is based on the contract pricing provided by Schneider (refer section 3.2 and Appendix A). It will also reflect the estimated contribution of rural services to emissions based on kWh. We are satisfied that these costs are reasonable.
- **PS6 Consulting Costs (+0.2 million):** We noted that similar costs were not identified for the urban services. Lower Murray Water advised that this reflects additional costs it is expecting to incur for irrigation services and that it is otherwise absorbing these costs for urban services. We consider it appropriate to allow this for Lower Murray Water given the comparative size of its operating

¹¹ Lower Murray Water 2022, 2023-28 Price Submission, 27 September, p.115.

expenditure budget for rural services, as well as its lower baseline, net zero growth factor and proposed negative step changes. On a stand-alone basis, a business of this size would likely be required to rely more heavily on external expertise. Summary of our assessment

Lower Murray Water is proposing net step changes of -\$1.8 million. The two areas it is proposing increased expenditure is more than offset by savings and other adjustments. Nevertheless, we can confirm that the step changes appear reasonable.

6.5 Summary of rural services operating expenditure assessment

Lower Murray Water is proposing reductions in controllable operating expenditure for rural services over the PS5 regulatory period. This is driven by:

- a reduction in baseline controllable operating expenditure for 2021-22 compared to the Commission's approved allowance
- zero net growth in that baseline expenditure per year
- total step change adjustments totaling -\$1.8 million over the PS5 regulatory period.

This proposal is consistent with a prudent business operating efficiently.

7 RURAL SERVICES CAPITAL EXPENDITURE ASSESSMENT

7.1 Overview of assessment approach

We have applied the same approach to assess Lower Murray Water’s forecast capital expenditure for rural services as for urban services, as outlined in section 4.1, with a focus on key program expenditure.

7.2 Assessment of overall capital program

7.2.1 Link to customer outcomes and obligations

Lower Murray Water’s PS5 submission includes an appendix setting out the justification and links to customers outcomes for its major projects and programs for the PS5 regulatory period. The major areas of expenditure include irrigation meter and mains replacements and minor irrigation works which are aimed at maintaining accurate metering and a reliable level of service.

7.2.2 Comparison of forecast and actual capital expenditure – PS4

Lower Murray Water expects to deliver a capital expenditure program of \$46.3 million within the PS4 regulatory period. This is 20 per cent more than the capital expenditure benchmark allowance approved by the Commission for the PS4 regulatory period. The PS4 actual expenditure includes \$8.4 million for the Sunraysia districts area extensions project (fully funded by government and benefiting customer contributions), which was uncertain at the time of the PS4 submission and hence excluded from the forecast.

Accounting for the external funding for the Sunraysia extensions project, Lower Murray Water expects to deliver the PS4 capital expenditure in line with the benchmark allowance approved by the Commission for the PS4 regulatory period. Lower Murray Water has explained in its PS5 submission that \$7 million of additional expenditure associated with the Millewa river pump station project reflects a combination of market cost escalation, a change in scope due to additional government environmental requirements, and the need to build a new pump station resulting from regulated changes to the river operating level assumptions.

7.2.3 Forecast capital expenditure – PS5

Lower Murray Water has forecast rural capital expenditure of \$50.4 million for the PS5 regulatory period. This is:

- 9 per cent more than its actual capital expenditure (including 2022-23 forecast) over the PS4 regulatory period
- 79 per cent more than the forecast capital expenditure outlook for the PS5 regulatory period that it included in its PS4 submission.

We have assessed the total capital expenditure of \$50.4 million, less the Millewa river pump station project expenditure of \$7 million, because this expenditure has already been incurred by Lower Murray Water in the PS4 regulatory period.

The key drivers for the PS5 capital expenditure program are:

- renewals (\$30.6 million), comprising 61 per cent of the total forecast capital expenditure
- improvements/compliance (\$12.8 million), comprising 25 per cent of the total forecast capital expenditure

Lower Murray Water has only included three major projects totaling \$3.4 million. The balance of the PS5 capital expenditure is made up of ongoing major programs (\$20 million) and approximately 80 individual capital expenditure items (\$27 million) listed in the submission.

Based on the information contained in Lower Murray Water's PS5 submission and the additional supporting information provided, we consider that there was sufficient justification for the proposed expenditure.

As noted in the submission and above, Lower Murray Water has included the \$7 million additional PS4 period expenditure (net \$3.1 million) from the Millewa river pump station project in the PS5 regulatory period forecast for 2023-24. We have not assessed this expenditure and whether the inclusion of the expenditure in the PS5 capital expenditure forecast is justified.

7.2.4 Underlying processes for developing the program

Lower Murray Water has developed its capital program in line with its Asset Management, Risk Management and Capital Planning and Forecasting frameworks, which guide its investment decision making, capital prioritisation and cost estimation.

The processes adopted for developing the program is common for both the urban and rural capital expenditure. For further information, refer to Section 4.2.4.

7.2.5 Reliability of cost estimation

Lower Murray Water's Capital Planning and Forecasting Framework guides its approach to cost estimation and contingencies for major projects, renewals forecasting and minor projects/programs. The approach to cost estimation is common for capital expenditure related to both its urban and rural services, as outlined in Section 4.2.5.

7.2.6 Deliverability of capital program

Lower Murray Water's submission references¹² the lower level of PS5 period forecast capital expenditure relative to historical peaks, along with established contract management procedures and a dedicated internal delivery team (supported by consultants where required), as evidence it can deliver the capital program.

It typically competitively tenders its projects, except for some lower-risk irrigation pipeline projects, which it resources with internal capability where efficiency and quality can be demonstrated.

Based on the information provided in the submission and the expenditure (predominantly ongoing renewals based), we have a reasonable level of confidence that Lower Murray Water's capital program is deliverable in the PS5 regulatory period.

7.3 Assessment of major projects and major programs

7.3.1 Major projects

Lower Murray Water's PS5 submission lists three major rural capital projects totaling \$3.4 million, including an asset decommissioning project (\$2.1 million), and two corporate business transformation projects centered around the customer portal and asset management automation.

¹² Lower Murray Water 2022, Price Submission 2023-28, Part A, p.27.

Lower Murray Water has included further information in its submission explaining the basis for the asset decommissioning.¹³ These assets (including deteriorating pump stations, channel sections and other structures) were made redundant when a new high-pressure system was commissioned and pose safety and maintenance risks. Lower Murray Water provided a supporting business case with a cost estimate, which was considered sufficient to support the forecast expenditure.

7.3.2 Major programs

The balance of the capital expenditure program consists of:

- major programs (\$20 million) including irrigation mains and meter replacements, motor vehicles, minor irrigation works, ICT equipment and Corporate facilities
- approximately 80 individual listed programs and minor projects (\$27 million).¹⁴

We requested and reviewed further information on the three largest programs.

Irrigation meter replacement program – \$5.8 million

This project aligns with the National Water Initiative and the Victorian Government non-rural water metering policy and implementation plan.

The business case has prioritised meter replacement to high-risk meters (pro-active replacement) and those meters failing the validation (reactive replacement).¹⁵ Lower Murray Water's cost estimate assumes the estimated number of meters to be replaced and the number of meter validations to be undertaken. We sought further information from Lower Murray Water in relation to the cost breakdown and to reconcile the 750 replacement meters included in the scope. In response, Lower Murray Water provided a more comprehensive breakdown of the type and number of meters to be replaced within the PS5 regulatory period, which was considered sufficient to support the program.

Irrigation mains replacement program – \$4 million

The program is supported by a business case with the level of annual expenditure underpinned by a comprehensive analysis of the age profile of assets.¹⁶ The expenditure represents a smoothing of the expected expenditure over a 10 year period. Lower Murray

¹³ Lower Murray Water 2022, 2023-28 Price Submission, 27 September, p.119.

¹⁴ Lower Murray Water 2022, 2023-28 Price Submission, 27 September, Appendix C2.

¹⁵ Lower Murray Water 2022, Business case: Rural Metering, 13 September, version 5 (final).

¹⁶ Lower Murray Water, Pricing Submission Business case: Rural Irrigation Drainage Pipelines and Pit lid renewals, version 8 (final). 31 Aug 2022; GHD Aged Based Renewal Forecasts Irrigation and Drainage 23 Feb 2022.

Water reviews the prioritisation of irrigation mains replacement annually based on the most up to date information on asset performance and condition.

Irrigation Minor capital works program – \$5.3 million

We reviewed the Minor capital works program business case¹⁷ to understand the level of supporting information underpinning the expenditure.¹⁸

Lower Murray Water has determined the budget for the minor capital works program considering the estimated costs for delivering individual works together with the historical expenditure. Lower Murray Water has included an initial list of irrigation and drainage minor capital works in an appendix¹⁹ to the business case and reprioritises and updates this list annually.

The business case states that the proposed minor capital works cost estimates for the PS5 period aligns with the past level of spending and is reflective of current market costs and the program is delivered annually, mostly within the forecasted allocations.

The information provided around the program expenditure above, indicates that the methodology to determine the levels of expenditure is consistent with a prudent service provider acting efficiently.

7.4 Summary of rural services capital expenditure assessment

Based on the information included in the submission and the additional information provided for the major areas of program expenditure, we consider that:

- the proposed capital expenditure program is consistent with a prudent service provider acting efficiently
- the forecast capital expenditure is justified, robust and is capable of being delivered by Lower Murray Water in the PS5 regulatory period.

As such, we do not propose any adjustments to Lower Murray Water’s forecast rural capital expenditure for the PS5 regulatory period.

¹⁷ Lower Murray Water Pricing Submission Business Case Minor Capital Works – New and Replacement (Rural Irrigation and Drainage) version 4 (Final) 19 Sept 2022.

¹⁸ Lower Murray Water, Business Case: Minor Capital Works-New and Replacement (Rural Irrigation and Drainage, version 4 (final).

¹⁹ Lower Murray Water, Appendix 8.2 List on Minor Capital Works p16

APPENDIX A: CROSS-INDUSTRY OPERATING EXPENDITURE ISSUES

Overview

There are several drivers of increased operating expenditure over the current PS4 regulatory period and/or forecast for the PS5 regulatory period that are common across water businesses. While the base-step-trend methodology does not involve a 'bottom up' or category-by-category assessment of expenditure, we consider it important to ensure that we have regard to the key drivers and trends in baseline increases and/or proposed step changes in assessing each business's proposal.

This appendix reviews some of those expenditure drivers in more detail, including in relation to:

- energy
- IT
- labour.

It also presents some comparative data submitted to the Commission by each of the water businesses as part of their respective Price Review Models. Section 3.2 of this report outlines the implications of this analysis for our approach.

Energy expenditure

Background

Energy costs have been increasing in recent years. This has been driven by several factors, including increases in the wholesale price of electricity, the impact of the Ukraine war on global energy prices, increasing network costs and the costs associated with the transition to renewable energy. This has impacted actual energy costs for the water businesses over the current PS4 regulatory period. The uncertainty and volatility in the electricity market has also made it more challenging for water businesses to forecast electricity costs for the PS5 regulatory period. The Victorian water businesses have also all committed to sourcing their energy requirements from 100 per cent renewable sources by 2025.

The Schneider report

The Intelligent Water Network is a collaboration between the Victorian water businesses, VicWater and the Department of Energy, Environment and Climate Action (DEECA, formerly the Department of Environment, Land, Planning and Water (DELWP)). The Intelligent Water Network engaged Schneider Electric Energy and Sustainability Services (Schneider) to

provide forecast electricity prices for the PS5 regulatory period. Victorian Government Purchasing Board reforms have mandated use of the State Purchase Contracts for electricity (large and small market) managed by the Department of Treasury and Finance and Schneider. We understand that some water businesses are already using these contracts while others are in the process of transitioning to these new contracts.

The Schneider report, finalised in March 2022, addressed the following key assumptions:

- energy commodity rates (peak and off-peak)
- Large-scale Generation Certificates
- Small-scale Technology Certificates
- Victorian Energy Efficiency Certificates
- network forecast charges
- market operator charges.

It appears that all the water businesses have used the Schneider report as the basis for their forecast electricity costs for the PS5 regulatory period. We have undertaken a high level review of the Schneider report and the methodology and assumptions used (including data sources) appear reasonable. We have also examined how it has been applied by each business.

Industry emissions reduction target

Under the Water for Victoria Plan, the Victorian water sector has committed to achieving net zero emissions by 2035. The sector has also committed to sourcing 100 per cent of its electricity needs from renewables by 2025. The Statement of Obligations (Emission Reduction) made pursuant to the *Water Industry Act 1994* requires all Victorian water businesses to:

- prioritise the implementation of actions that avoid or reduce emissions resulting from its operations
- achieve emission reductions efficiently, making full use of the time available to do so.²⁰

In pursuing these reductions, Section 3.2 of the Statement of Obligations (Emission Reduction) encourages water businesses to:

- pursue actions and targets at the lowest possible cost, seeking to minimise any impact on water customer bills

²⁰ Statement of Obligations (Emission Reduction), Section 3.1.

- have regard to any price impacts on their vulnerable customers.

Five yearly targets have been set under the Statement of Obligations on the transition to net zero by 2035. This means that a business that has committed to achieving an annual emissions target in a target year (for example, by 1 July 2030) must ensure that it keeps its emissions at or below that level in all subsequent years leading up to their next five-yearly emissions target (for example, 1 July 2035). The requirement to source 100 per cent of their electricity from renewable sources applies from 2025 onwards.

Table A1 shows the baseline level of emissions for each water business and the reductions required by the 2024-25 financial year. It shows that the reductions required by each business vary materially depending on their current baseline.

Table A1: Victorian water businesses emission reduction targets

Business	Emissions baseline	Annual reportable emissions 2024-25 (tonnes CO2 e)	% reduction from baseline
Barwon Water	42,986	15,926	-63
Central Highlands Water	18,351	14,738	-19.6
Coliban Water	33,604	29,304	-12.8
East Gippsland Water	8,272	6,496	-21.5
Gippsland Water	42,021	32,080	-23.7
Goulburn Valley Water	49,575	37,416	-24.5
Grampians Wimmera Mallee Water	20,017	16,244	-18.8
Lower Murray Water	44,188	24,708	-44.1
South East Water	41,744	23,016	-44.9
South Gippsland Water	7,663	6,480	-15.4
Southern Rural Water	1,559	0	
Wannon Water	31,626	18,976	-40
Westernport Water	6,062	5,598	-7.7
Yarra Valley Water	32,004	11,664	-63.6

Source: <https://www.water.vic.gov.au/climate-change/reduced-emissions-in-the-water-sector/net-zero-emissions-by-2050>

The businesses must then transition over the following five years to their next target (for the 2029-30 financial year). All businesses are required to achieve net zero by 2034-35, although some businesses are forecasting to achieve net zero by 2029-30.

It is evident from water business PS5 submissions and discussions with the business that different initiatives are being employed to achieve the 2025 target including one or more of the following:

- direct capital investment in ‘behind the meter’ renewable capacity (for example, installing solar photovoltaic (PV) at water treatment plants)
- purchasing energy generated from renewable sources (greenpower), which can involve an additional cost compared to conventional sources
- purchasing offsets, such as Large-scale Generation Certificates.

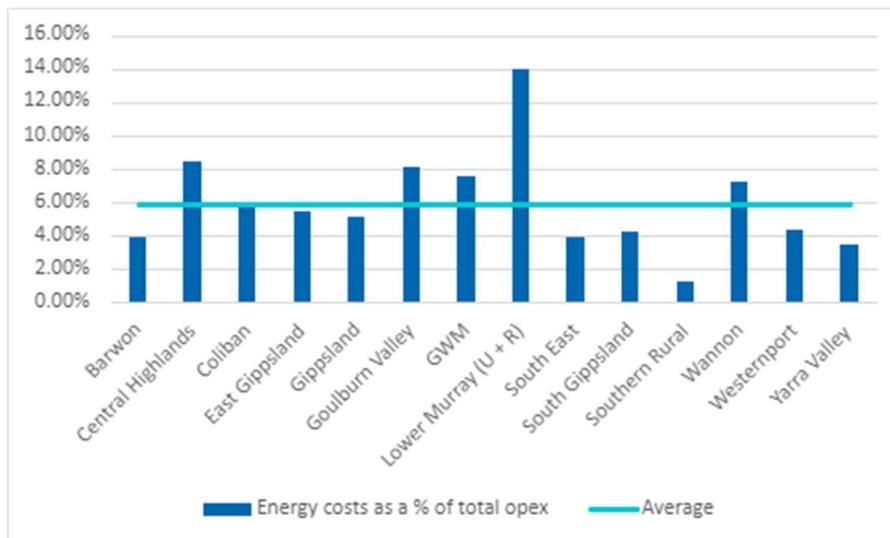
The most appropriate strategy depends on the needs and circumstances of the business, including the feasibility (and cost) of direct action measures such as solar PV.

Some businesses have proposed step changes in operating expenditure for additional costs associated with the above initiatives.

Cross-sector expenditure trends

Overall, proposed electricity expenditure for PS5 accounts for a relatively small proportion of controllable operating expenditure, averaging around 6 per cent, as shown below.

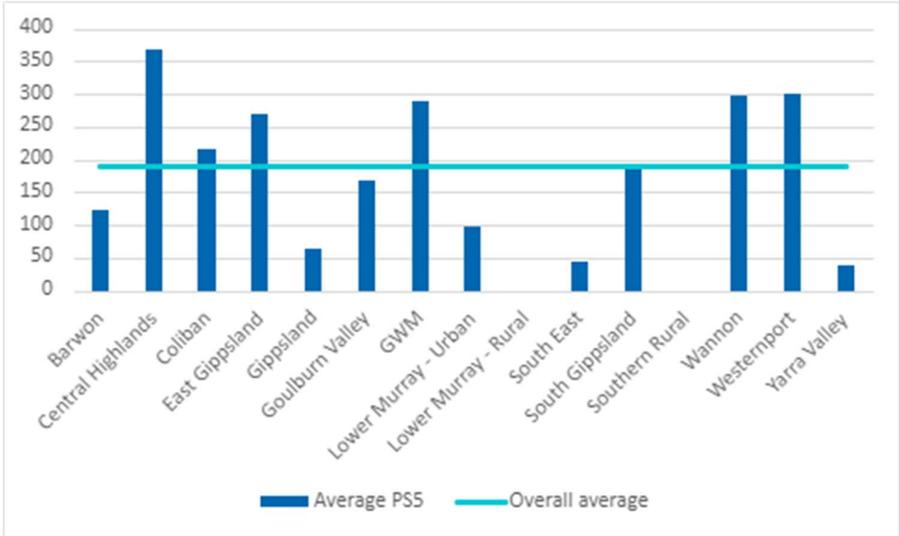
Figure A1: PS5 forecast total energy expenditure as a percentage of total controllable operating expenditure (%)



Source: Victorian water businesses, 2023 Price Review Models.

For the urban businesses, Figure A2 shows electricity expenditure per volume of water delivered (in ML).

Figure A2: PS5 forecast energy costs per volume of water delivered (\$ per ML, 1 January 2023)

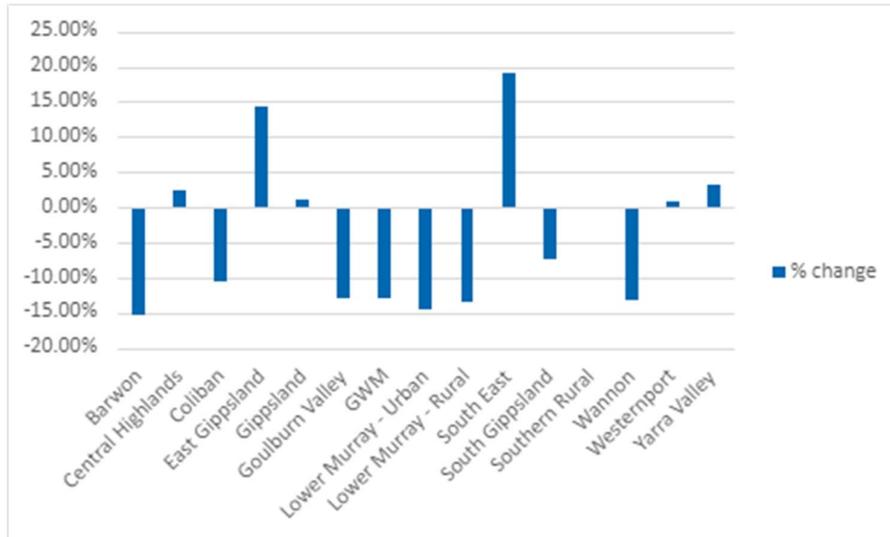


Source: Victorian water businesses, 2023 Price Review Models.

As noted above, energy costs have been increasing over the current PS4 regulatory period. However, most businesses are forecasting a decline in energy costs in the PS5 regulatory period for several reasons, including efficiency initiatives and targets. Figure A3 shows the change between total actual PS4 energy expenditure²¹ and proposed PS5 energy expenditure for each business.

²¹ Note that the Price Review Models submitted by the water businesses to the Commission for this PS5 review include updated forecasts for financial year 2022-23.

Figure A3: Total energy expenditure: total proposed for PS5 regulatory period less total actual for PS4 regulatory period (%)



Source: Victorian water businesses, 2023 Price Review Models. Note PS4 actuals include an updated forecast for the 2022-23 financial year.

IT expenditure

Background

Several businesses have experienced increases in IT-related operating expenditure in the PS4 regulatory period, which have impacted the 2021-22 baseline, and/or are proposing step changes for IT expenditure in the PS5 regulatory period. This is reflected in three main categories:

- Cloud-based services
- cyber security
- other IT expenditure.

Cloud-based services

Consistent with trends in other businesses and industries, most of the water businesses are either in the process of transitioning, or have transitioned, to Cloud-based services (also referred to as Software as a Service (SaaS)). Rather than each business having all its own hardware and software infrastructure on-site, this is a software distribution model where key applications are centrally hosted via a third-party provider. Services are then delivered via the Cloud and the third-party provider manages all hardware and software

requirements. Users then contract and pay for services based on a licence or subscription fee model.

Several water businesses source key applications from Technology One. In 2021 Technology One announced that it will commence transitioning all on-premises customers to its SaaS platform. Based on its timetable, it will cease providing on-premises support services to customers on 1 October 2024.²²

A key implication of the change to this different service delivery model is that expenditure formerly categorised as capital expenditure will now be characterised as operating expenditure (i.e. relevant licence and subscription fees). Holding all else constant, this will be reflected in a reduction in capital expenditure and an uplift in operating expenditure (noting that this is not a 'dollar for dollar' substitution and that the profile for capital expenditure will have depended on the investment needs of the business). In terms of the impact on operating expenditure, this is evidenced by several businesses either attributing SaaS costs as a driver of the baseline uplift or proposing as a step change.

Additional costs may be incurred in the process of transitioning to Cloud-based services. In this regard, we understand that the Commission has advised the water businesses that it will consider capitalising transition-related expenditure where appropriate. Where proposed, this is considered as part of the review of each business's capital expenditure.

Cyber security

The need to upgrade cyber security has accelerated over the PS4 regulatory period and is also now receiving increased scrutiny from government agencies, customers and the wider community. Activities range from ensuring that water assets and operations remain resilient to cyber attacks through to protecting customer data.

Victorian water businesses are required to comply with several requirements and standards including:

- the Victorian Protective Data Security Framework established pursuant to the *Privacy and Data Protection Act 2014*, which sets out mandatory standards for Victorian public sector agencies and bodies
- Victoria's Cyber Security Strategy 2021
- the Victorian Critical Infrastructure Resilience Framework, with water one of the eight critical infrastructure sectors. This has driven the requirement for a Water Sector Resilience Plan. Cyber security is one of several risks identified under that

²² <https://technologyonecorp.com/saas/pathway-to-saas#> {Accessed 13 December 2022}.

framework, which also extends to climate-related risks, pandemics and key supply chain disruptions. DEECA now leads the Water Sector Resilience Network, which aims to collaborate on matters relating to resilience by sharing information and experiences

- implementation of the recommendations of the Victorian Auditor-General's Office performance audit of Security of Water Infrastructure Control Systems.²³

Cyber security initiatives can be expected to continue to develop and evolve over the PS5 regulatory period.

Other IT-related expenditure

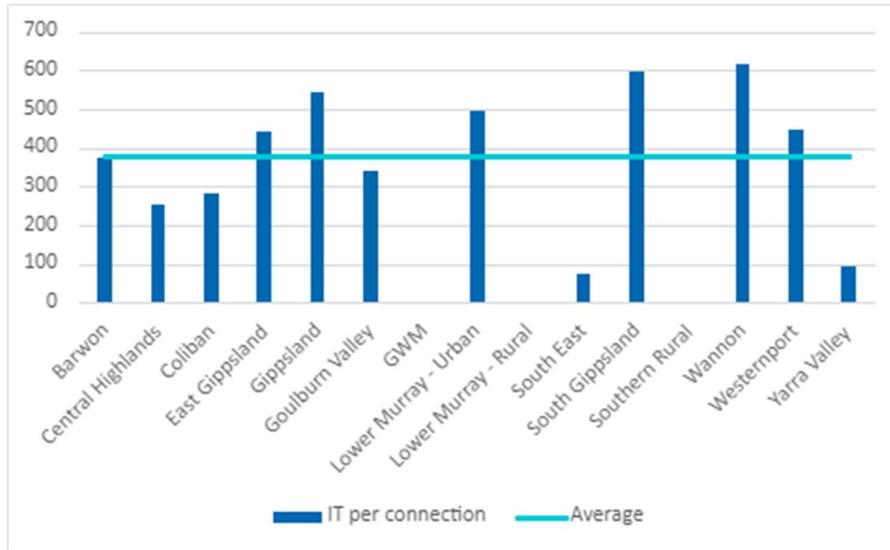
Depending on the functionality and maturity of each water business's current IT-architecture, other business-specific expenditure may be incurred in reviewing and upgrading this capability.

Cross-sector expenditure trends

As part of the Commission's Price Review Model, water businesses are required to report on total IT expenditure. For urban networks, this includes metrics such as IT expenditure per average water connection. Figure A4 shows that most of the water businesses with a higher average expenditure per water connection are smaller organisations, suggesting the presence of economies of scale.

²³ Victorian Auditor-General's Office 2019, *Security of Water Infrastructure Control Systems*, 9 May.

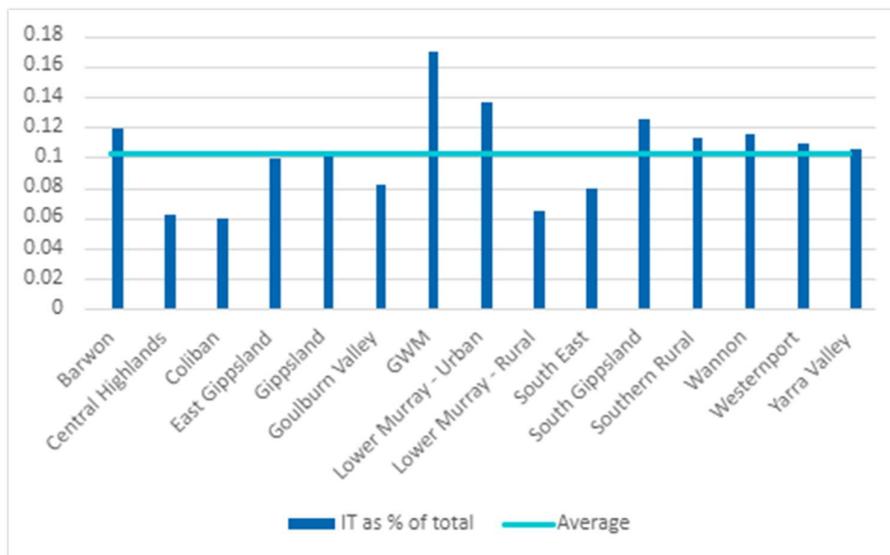
Figure A4: PS5 forecast: ICT operating expenditure per water connections (\$ per average number of water connections, 1 January 2023)



Source: Victorian water businesses, 2023 Price Review Models.

Figure A5 shows total forecast PS5 IT operating expenditure as a percentage of total controllable operating expenditure. This includes the rural businesses.

Figure A5: PS5 forecast: ICT operating expenditure as a percentage of total controllable operating expenditure (%)



Source: Victorian water businesses, 2023 Price Review Models.

Labour costs

Background

Labour costs tend to account for the largest proportion of operating expenditure for the water businesses. On average across the businesses, labour costs account for just under 50 per cent of total forecast controllable operating expenditure for the PS5 regulatory period as shown below.

Labour costs are a function of employee numbers (measured in terms of FTEs)²⁴ and the costs of remuneration (including salaries, wages and other employee-related expenses).

Labour force

The size of each organisation's labour force varies according to their business and operating environment, including their geographical location and service area (which, amongst other things, will influence the size and dispersion of field staff).

Some businesses supplement internal labour resources with external contractors – this can be a temporary response to labour shortages, a need for specialist expertise that does not reside in-house and/or decisions to outsource certain activities. The optimal balance between internal and external labour will be a management decision for the business.

Remuneration

A key driver of remuneration is the water business's Enterprise Agreement (EA), which typically have four-year terms. Each water business is likely to have an EA expiring and a new EA commencing during the PS5 regulatory period. As a result, each water business needs to forecast the impact of any anticipated change in EA terms.

Some common themes that have emerged in terms of labour costs over the PS4 regulatory period.

- First, Victorian public sector entities must ensure that executive remuneration complies with any determinations and guidelines issued by the Victorian Independent Remuneration Tribunal. They must also continue to comply with the requirements of the Public Entity Executive Remuneration Policy (PEER).²⁵ The Premier typically announces an annual adjustment guideline rate for adjustments

²⁴ Full-time equivalent employees.

²⁵ Refer: <https://vpsc.vic.gov.au/executive-employment/victorian-public-entity-executive-employment/public-entity-executive-handbook/4-remuneration/> {accessed 14 December 2022}.

to executive remuneration. For 2021-22 and 2022-23, that rate was 1.5 per cent. Several businesses refer to the application of this rate in their PS5 submissions.

- Second, several of the regional water businesses have commented on challenges in attracting and retaining staff. This appears to have become a more significant problem for some businesses as the labour market tightens following the economic recovery from the COVID-19 pandemic. Some businesses have cited the need to offer higher salaries (including above the EA rate) to attract and retain staff. This appears to have underpinned increases in baseline expenditure as well as step changes for the PS5 regulatory period. Changes have also occurred in terms of employee expectations and practices around flexible working.

These challenges appear to be consistent with overall labour market trends in recent years, as well as the outlook. This reflects a material shift relative to the subdued outlook for wages that prevailed at the time of the last price review, as summarised below.

Labour market conditions and wage growth pressures

When the Commission made its determinations for the water businesses in 2018, Victoria had been experiencing a period of subdued wages growth, consistent with the experience of most other advanced economies.²⁶ The forecasts underpinning the 2018-19 State Budget was for wages to grow by 2.5 per cent in 2018-19 and 2.75 per cent in 2019-20.²⁷

Actual growth in the Victorian Wage Price Index (WPI) was 2.6 per cent to 30 June 2019. It then contracted as COVID-19 impacted the economy, falling to 1.5 per cent for the year ended 30 June 2021 and then recovering to 2.3 per cent to 30 June 2022.⁹ In terms of industry trends, for Australia, the annual change in total hourly rates of pay for the Electricity, Gas, Water and Waste Services sector was 2.9 per cent to 30 June 2022, compared to 3.2 per cent for all industries.

The most recent 2022-23 Victorian State Budget forecast was for an increase in the WPI of 2.75 per cent in 2022-23. It is then expected to increase further to 3.00 per cent per year to 2025-26 as the economy expands and labour market conditions remain tight.²⁸ The Reserve

²⁶ State of Victoria 2018, Strategy and Outlook 2018-19 Budget Paper No. 2, Department of Treasury and Finance, p.23.

²⁷ State of Victoria 2018, Strategy and Outlook 2018-19 Budget Paper No. 2, Department of Treasury and Finance, p.22.

²⁸ State of Victoria 2022, Strategy and Outlook 2022-23 Budget Paper No. 2, Department of Treasury and Finance, p.32.

Bank of Australia (RBA) is forecasting stronger growth in the WPI for Australia, increasing to 3.7 per cent by 30 June 2023 and then rising to 3.9 per cent by December 2024.²⁹

This presents a mixed picture of wages growth over the current PS4 regulatory period, which was significantly impacted by the COVID-19 pandemic. The current outlook is more bullish, driven largely by the tight labour market and high inflation, with spare labour market capacity at record lows.³⁰ In its November 2022 Statement on Monetary Policy, the RBA also observed that job mobility is higher than the years preceding the pandemic and is now around the levels observed prior to the Global Financial Crisis. It also noted the considerable uncertainty associated with the current economic outlook.

Overall, this highlights the current wage growth pressures that many of the water businesses has observed. The data doesn't enable any insights into the trends in regional labour markets in Victoria or specific pressures that might emerge for the skillsets required by the water businesses. The duration and extent of these wage growth pressures is also highly uncertain.

Superannuation Guarantee Charge

The compulsory Superannuation Guarantee Charge (SGC) has been progressively increasing to a rate of 12 per cent by 1 July 2025. This has been identified by some businesses as contributing to increases in labour costs.

The extent to which this will result in an increase in labour costs for employers depends on the nature of the employment arrangement. For example, for salaried workers whose salary package is inclusive of superannuation, the increase in the SGC may be offset by a reduction in take-home pay, which would result in no net change in costs to the employer. In other cases, where employees are on a 'salary plus superannuation' arrangement, it will result in an increase in total remuneration for the employee, which will increase the cost to the employer.

The impact of this will therefore vary between businesses and potentially within businesses given employees may be subject to different types of arrangements.

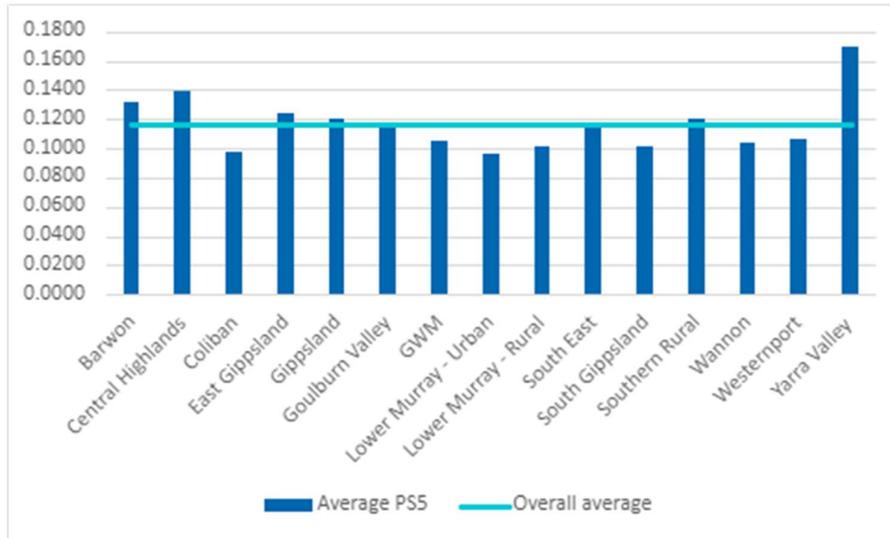
²⁹ Reserve Bank of Australia 2022, Statement on Monetary Policy, November.

³⁰ Reserve Bank of Australia 2022, Statement on Monetary Policy, November.

Cross-sector expenditure trends

Businesses are required to report several metrics on labour costs in the Commission’s Price Review Model, including FTEs and unit labour costs. Key metrics are summarised below.

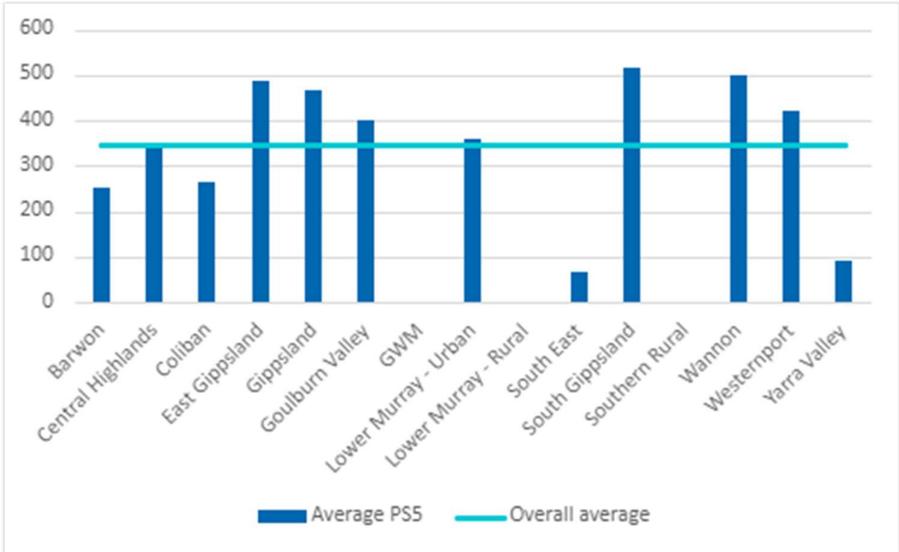
Figure A6 shows average unit cost per FTE as forecast for the PS5 regulatory period, as reported by the businesses. Figure A6: PS5 forecast average unit cost per FTE (\$ million per FTE, 1 January 2023)



Source: Victorian water businesses, 2023 Price Review Models.

Based on forecast labour costs for the water businesses for the PS5 regulatory period, Figure A7 shows the average labour cost per water connection (based on the average of the forecast number of connections over the period). It shows that most of the water businesses with a higher average expenditure per water connection are smaller organisations, suggesting the presence of economies of scale.

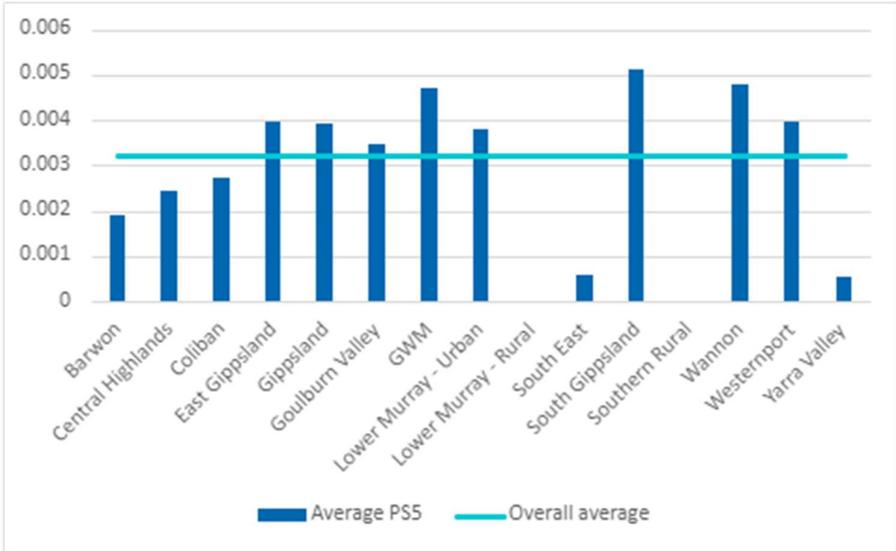
Figure A7: PS5 forecast: Average labour cost per water connection (\$ per average number of water connections, 1 January 2023)



Source: Victorian water businesses, 2023 Price Review Models.

As expected, this shows material scale economies for the larger businesses. This is similarly evidenced based on the average number of FTEs per water connection (see Figure A8).

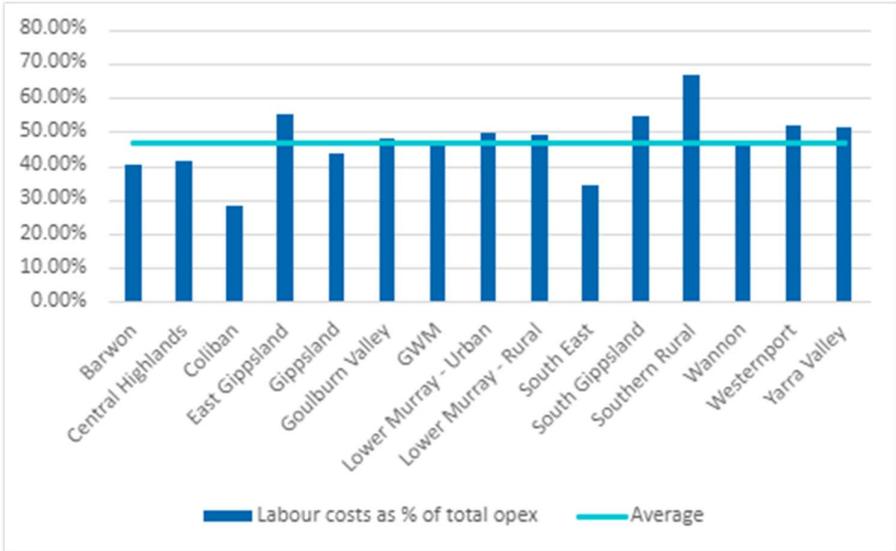
Figure A8: PS5 forecast average number of FTEs per water connection



Source: Victorian water businesses, 2023 Price Review Models.

Figure A9 shows forecast labour costs as a percentage of total controllable operating expenditure for each of the water businesses over the PS5 regulatory period.

Figure A9: PS5 forecast labour costs as a percentage of total controllable operating expenditure (%)



Source: Victorian water businesses, 2023 Price Review Models.

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